University of California, Santa Barbara General Catalog 1993/94

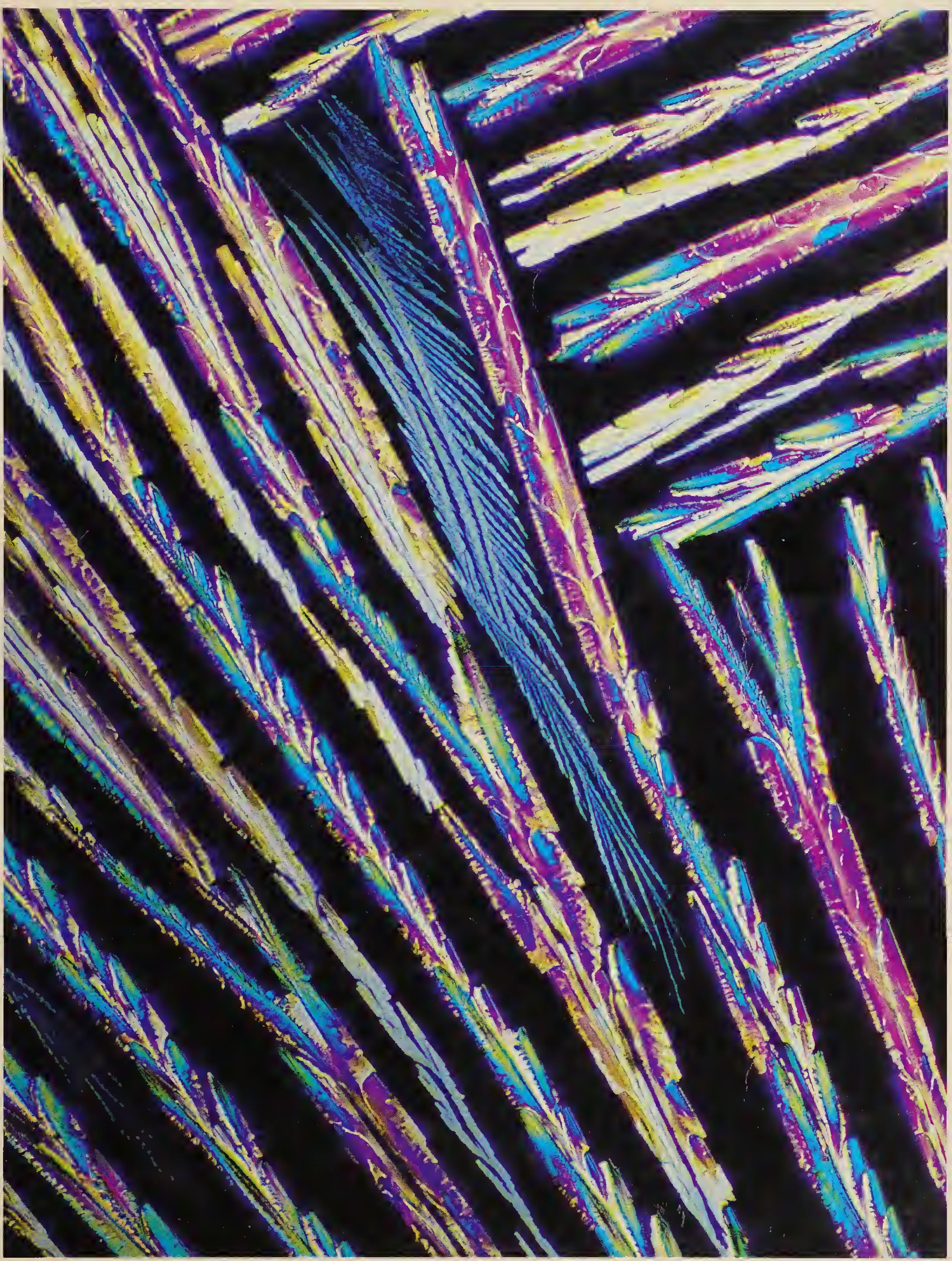

Figure 1: Nerve cell membranes of the torpedo ray photographed using polarized light. [Image by Gary Rogers, Department of Chemistry, UCSB]

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University of California, Santa Barbara

General Catalog

1993/94

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Santa Barbara, CA 93106-6090
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All announcements herein are subject to change without notice.

This publication is available in alternative formats, upon request.

UCSB
UNIVERSITY OF CALIFORNIA
SANTA BARBARA

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A very special thanks to the following staff members of the University Art Museum for their assistance in preparing this year's back cover:

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Sandra M. Rushing, *Registrar*

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Calendar, 1993–94

Note: Dates subject to change without notice.

	Fall '93	*Winter '94*	*Spring '94*
Undergraduate status Application filing period for undergraduate admission, to be filed with the University of California, Undergraduate Application Processing Service, P.O. Box 23460, Oakland, CA 94623–0460.	November 1–30, '92	July 1–31, '93	October 1–31, '93
Undergraduate Intercampus transfer Application filing period for intercampus transfer, to be filed with the University of California, Undergraduate Application Processing Service, P.O. Box 23460, Oakland, CA 94623–0460.	November 1–30, '92	July 1–31, '93	October 1–31, '93
Undergraduate Returning students Application filing period for readmission, to be filed with the Office of the Registrar by undergraduate students who have been absent for one or more quarters or who withdrew during their last quarter of attendance at UCSB. Applications may be accepted after this deadline on a space available basis only.	November 1–30, '92	July 1–31, '93	October 1–31, '93
Graduate status Final date for filing applications, application fees, and credentials for admission to graduate status, to be filed with the Graduate Division.	May 1, '93 *(Saturday)*	November 1, '93 *(Monday)*	February 1, '94 *(Tuesday)*
Registration begins	May, '93	November, '93	February, '94
Quarter begins	September 20, '93 *(Monday)*	January 2, '94 *(Sunday)*	March 27, '94 *(Sunday)*
Pre–instructional activities Required testing, advising, meetings, and new student orientation.	September 20–22, '93 *(Monday–Wednesday)*	January 2, '94 *(Sunday)*	March 27, '94 *(Sunday)*
First day of instruction	September 23, '93 *(Thursday)*	January 3, '94 *(Monday)*	March 28, '94 *(Monday)*
Last day of instruction	December 3, '93 *(Friday)*	March 11, '94 *(Friday)*	June 2, '94 *(Thursday)*
Final examinations	December 6–11, '93 *(Monday–Saturday)*	March 14–19, '94 *(Monday–Saturday)*	June 4–10, '94 *(Saturday–Friday)*
Quarter ends	December 11, '93 *(Saturday)*	March 19, '94 *(Saturday)*	June 10, '94 *(Friday)*
Commencement			June 11, 12, '94 *(Saturday, Sunday)*

Summer Sessions '94

Registration begins: April '94

High School Juniors Program, Young Artists Vocal Institute, and Young Scholars Program:

Programs begin: June 19, '94

First day of instruction: June 20, '94

Last day of instruction: July 29, '94

Holidays

Labor Day: Monday, September 6, '93

Thanksgiving: Thursday and Friday, November 25 and 26, '93 *(classes dismissed at 3:00 p.m., Wednesday, November 24)*

Christmas: Thursday and Friday, December 23 and 24, '93

New Year: Thursday and Friday, December 30 and 31, '93

Martin Luther King, Jr.'s Birthday: Monday, January 17, '94

Presidents' Day: Monday, February 21, '94

Spring Holiday: Monday, March 21, '94

Memorial Day: Monday, May 30, '94

Independence Day: Monday, July 4, '94

Correspondence Directory

Address all correspondence to: University of California, Santa Barbara / Santa Barbara, CA 93106
For campus directory information, dial (805) 893-8000; (805) 893-2327 V/TDD.*

Office	*Location*	*Telephone* **(Area code 805)**
Admissions (Undergraduate)	Cheadle Hall 1210	893-2881 V/TDD
Affirmative Action	Cheadle Hall 3203	893-2701
Associated Students	University Center 3177	893-2566
Billing, Accounts Receivable, Collections	Cheadle Hall 1311	893-2155
Bookstore	University Center	893-3271
College of Creative Studies	Building 494	893-2364
College of Engineering	Engineering 11030	893-2809 V/TDD
College of Letters and Science	Cheadle Hall 2119	893-2038 V/TDD
Counseling and Career Services	Building 599	893-4411 V/TDD
Community Housing (Off-campus)	Building 434, Room 110	893-4371 V/TDD
Dean of Students	Building 427	893-4569
Education Abroad Program		
Campus office	Girvetz Hall 1231	893-3763
University-wide administration	6550 Hollister Avenue	893-4762
Educational Opportunity Program/ Student Affirmative Action	Building 434, Room 125	893-3235
Student Financial Services	South Hall 1607	893-2432
Graduate Division	Cheadle Hall 3117	893-2277 893-3803 V/TDD
Graduate School of Education		
Advanced degrees	Phelps Hall 1175A	893-2137
Credentials	Phelps Hall 1188	893-2084
Graduate Students Association	South Hall 1409	893-3824
Housing and Residential Services		
On-campus	Residential Services 1501	893-2760
Family Student Apartments	Santa Ynez	893-4021
Single Student Apartments	Santa Ynez	893-3640
Instructional Development	Kerr Hall 2130	893-4335
International Students and Scholars	Building 434	893-2929
Library	Library Building	893-2477 V/TDD
News and Communications	Cheadle Hall 1008	893-2191
Ombudsman	Trailer 989	893-3285
Police/Fire/Paramedic	Public Safety Building	893-3446
EMERGENCY ONLY		9-911 or 893-2221 V/TDD
From Pay Phones		Dial 911
Registrar	Cheadle Hall 1117	893-3592
Relations with Schools	Cheadle Hall 1234	893-2485
Disabled Students Program	South Hall 1417	893-2668 V/TDD
Student Health Service	Building 588	893-3371 V/TDD
Summer Sessions	Cheadle Hall 1317	893-2047
University Extension	6550 Hollister Avenue	893-4200
Women's Center	Building 434	893-3778

•Voice or TDD (Telecommunications Device for the Deaf) may be used on these telephones.

A Word from the Chancellor

Universities are places where people ask questions and seek to find enduring answers. At the University of California, Santa Barbara, teachers are also scholars who bring the excitement of their own research into the classroom and provide unique insights into the nature of knowledge.

UC Santa Barbara is also a place where human differences are valued and celebrated. Our community consists of individuals from diverse cultural, ethnic and economic backgrounds, women and men whose varying perspectives and experiences enrich our intellectual lives and broaden our horizons in many ways. By learning from one another, we are better preparing ourselves for the multicultural and globally interdependent society of the twenty-first century.

The University of California has long been a driving force in fostering the advancement of knowledge and greater under-standing among people. At UCSB, we are determined to uphold this legacy and fulfill this public trust. Both our prosperity as a state and our promise as a nation depend upon our creativity and our perseverance as we work to meet the challenges of tomorrow.

I invite you to join us. More than anything else, UCSB is a place where you can begin to make a difference, in your own life and in the world.

Barbara S Uehling

BARBARA S. UEHLING

University of California, Santa Barbara

The University of California, Santa Barbara is a major research institution offering undergraduate and graduate education in the arts, humanities, sciences and technology, and social sciences. Large enough to have excellent facilities for study, research, and other creative activities, the campus is also small enough to foster close relationships among faculty and students. The total student population is about 18,650, with 16,372 undergraduates and 2,280 graduate students. The faculty numbers more than 900.

A member of the most distinguished system of public higher education in the nation, UC Santa Barbara is committed equally to excellence in scholarship and instruction. Through the General Education program, students acquire good grounding in the skills, perceptions, and methods of a variety of disciplines. In addition, because they study with a research faculty, they not only acquire basic skills and broad knowledge but are exposed to the imagination, inventiveness, and intense concentration that scholars bring to their work. The UCSB faculty includes recipients of the National Medal of Science, members of the National Academy of Sciences, the National Academy of Engineering and the American Academy of Arts and Sciences, and numerous Guggenheim fellows, Fulbright scholars, and fellows of the National Endowments for the Arts and for the Humanities.

UCSB takes great pride in having one of the highest graduation rates after four years (36%) among public universities. After six years, approximately two thirds of UCSB's entering freshman class graduate. (See Appendix for a detailed report on retention and graduation statistics.)

Students receive encouragement and recognition for scholarly and creative activities through several channels. Many academic departments sponsor honors programs for undergraduate seniors in which the students design and complete an original research project. Undergraduates may also qualify for election to Phi Beta Kappa and other scholarly societies within their major fields. They may express themselves creatively in music, dance, and drama. They may publish in *Discovery*, the journal of undergraduate research, or in *Spectrum*, the journal of creative writing. Graduate students frequently publish, or co-publish with their mentors, in national journals. In addition, they may publish in *Thresholds*, a journal of graduate research published by the Graduate Students Association.

The University of California, Santa Barbara is fully accredited by the Accrediting Commission for Senior Colleges and Universities, Western Association of Schools and Colleges. Accreditation documents are available for review in the Office of the Vice Chancellor, Academic Affairs, Cheadle Hall 5105A.

The Campus

History

The University of California

The University of California was chartered as a land-grant college in 1868. Nine UC campuses are now located throughout the state, in Berkeley, Davis, Irvine, Los Angeles, Riverside, San Diego, San Francisco, Santa Barbara, and Santa Cruz. Together, the campuses have a full-time faculty of almost 7,500 and a current enrollment of about 166,247 students, 92 percent of whom are California residents. About one-fourth of UC students are studying at the graduate and professional level. The university also operates a variety of laboratories, agricultural field stations, extension offices, and other facilities. The university is the primary state-supported academic agency for research.

The nine UC campuses are governed by the Regents of the University of California, a corporate board of 26 members. The regents, in turn, delegate authority to the president, to the chancellor of each campus, and to the Academic Senate, which represents the faculty.

The University of California is the pre-eminent system of public higher education in the country. Its faculty includes 18 winners of Nobel Prizes, approximately 917 Guggenheim fellows, and many members of the American Academy of Arts and Sciences, the National Academy of Sciences, and the National Academy of Engineering.

University of California, Santa Barbara

The origins of UCSB as an institution of higher learning are in the Santa Barbara State Normal School, created by the state legislature in 1909, which then became Santa Barbara State College in 1935.

UCSB became a campus of the University of California in 1944 by the transfer of the facilities of Santa Barbara State College to the University of California system. Graduate study leading to the Master of Arts degree was authorized in 1953. In 1958, UCSB was designated a general campus of the university, authorized to award the Doctor of Philosophy degree.

Setting

The UCSB campus is situated on an 815-acre promontory on the Pacific coast. The main campus is bordered on two sides by the ocean and on the third by the community of Isla Vista. On the fourth side, the campus faces the Santa Ynez mountain range across Goleta Valley.

The main campus contains most of the 300 buildings that house the university. The outlying Storke campus includes playing fields and a family student housing complex. The west campus is largely undeveloped, containing an ecologically significant expanse of dunes that has been set aside as a natural preserve. Adjacent to the campus is the Santa Barbara Municipal Airport, with connecting service to and from Los Angeles, San Francisco, and other major cities. Highway 101 passes less than a mile from UCSB, with clearly marked turn-offs leading to the campus. Santa Barbara also may be reached by Amtrak and by regular bus service, with connections to the campus.

On campus and between the campus and nearby residential areas, the principal means of transportation is the bicycle. An extensive system of bike paths and three bicycle underpasses separate cyclists from pedestrians and motorists. Buses operate between the campus and surrounding communities.

The campus sits on a plateau, making it easy for students with mobility impairments to navigate. The Disabled Students Program provides mobility assistance on campus for those with disabilities. In addition, Easy Lift Transportation Inc., a local nonprofit corporation, can provide bus transportation for disabled students.

Recreational facilities include tennis courts, more than a mile of swimming and surfing beach, jogging paths, a 50-meter by 25-yard swimming pool accessible to the disabled, extensive playing fields, a synthetic track, baseball and softball diamonds, two gymnasiums, and a 17,000-seat stadium. The climate is ideal year-round for outdoor activities.

Community

UCSB is situated in the unincorporated community of Goleta, about 10 miles from downtown Santa Barbara. The Santa Barbara area has a population of about 174,500.

Adjacent to the university, the community of Isla Vista is made up of about 17,500 residents; approximately 8,000 are UCSB students. Isla Vista is bounded on three sides by the university and on the fourth by the ocean. Less than one square mile in area, Isla Vista is nonetheless a self-contained community with shops and services, restaurants, and recreational areas.

The City of Santa Barbara offers many natural and cultural attractions. Among these are the Museum of Art, the Historical Society Museum, the Museum of Natural History, the Santa Barbara Symphony, several excellent theatre companies—including the Santa Barbara Civic Light Opera—and dozens of rare book stores and art galleries. A research laboratory has been established at the Botanic Gardens for independent investigation by students and faculty.

Services

University Library

The UCSB library is a major research facility. As a member of the Association of Research Libraries, the Center for Research Libraries, and the Research Libraries Group, it participates in cooperative programs and policy development with other major research libraries to provide collections and services for the UCSB community.

The library has about 2 million books and bound journals. The collection grows by about 60,000 volumes annually. In addition, the library has an excellent collection of maps, technical reports, satellite imagery, government documents, manuscripts, and microformat materials.

The UCSB library collection is housed in two buildings: the Main Library and the Arts Library. The main building houses the general collection as well as several specialized units and services, which offer materials on specific subject areas or in specialized formats. Examples include the Science and Engineering Library (which provides more than 5,000 current serial subscriptions, 300,000 volumes, and 550,000 technical reports), the Government Publications Department, the Map and Imagery Laboratory, the Curriculum Laboratory, the Black Studies Unit, and the Colección Tloque Nahuaque (Chicano Studies Unit). Also located in the Main Library is the Department of Special Collections, which houses rare books and manuscripts as well as several distinguished collections, including the Wyles Collection on the American West, the Skofield Printers' Collection, and other in-depth research collections. In addition, the Main Library houses the Thoreau Edition, a long-term editing project which, with the support of the University Library, is producing an authoritative multi-volume edition of the writings of Henry David Thoreau.

Some of the special services in the Main Library include: computerized access to recent additions to the catalogs of all UC libraries; computerized access to citations in bibliographic data bases of recent science and engineering literature; terminals connected to the main computer center; and a Kurzweil Reading Machine for the blind,

jointly owned and operated with the Disabled Students Program.

The Arts Library is a full-service branch library that supports academic programs in art and music. In addition to the substantial book and journal collections, special materials include more than 50,000 phonograph records and a collection of music scores.

Information Systems and Computing

Information Systems and Computing (IS&C) is the primary contact for systems analysis, computer programming, and consulting for administrative users of central computing systems. Access to the university's data and telecommunications networks is also provided by IS&C. The central facilities support several computing systems, including MVS, VM/CMS, UNIX, and Pegasus, the Library's on-line catalog system. Public terminals are available in Phelps Hall and the Library for use by members of the campus community. There are more than 1,800 private and departmental terminals on campus. Micro- and minicomputer systems for teaching and research are utilized in several laboratories and departments. Information is available from the IS&C Administrative Office in Girvetz Hall 2326. Telephone: 893-2261.

University Art Museum

The University Art Museum is nationally renowned for its changing exhibition program, which is balanced between historical and contemporary art traditions and features artists of diverse cultural origins. Exhibitions complement academic programs, particularly art history and art studio, and interdisciplinary projects are encouraged. Each spring, the museum showcases the work of undergraduate students and MFA candidates in art studio. Student internships and courses in museum practices are offered through the Department of Art History.

The permanent collections include approximately seven thousand art objects, ranging from ancient terra cottas to old master drawings to contemporary sculpture, with work produced in Europe, America, Africa, and Asia. The Sedgwick Collection of fifteenth, sixteenth, and seventeenth century European paintings and the Morgenroth Collection of Renaissance medals and plaquettes are on permanent exhibition. The Print Collection and the Architectural Drawing Collection are available for study by appointment.

The University Art Museum is accredited by the American Association of Museums.

Instructional Development

Instructional Development enhances teaching and research with its two branches of Instructional Consultation and Instructional Resources.

The Office of Instructional Consultation offers expertise in various teaching methods, curriculum development, testing, and evaluation. The Instructional Improvement Program provides financial backing to faculty involved in innovative instructional projects. All of this enables faculty to teach in the most effective manner and to bring to students the fruits of their latest research.

Instructional Resources provides numerous technological aids to support the educational process. Sophisticated student learning and language laboratories, comprehensive media production, and presentation support are among the many services offered.

Arts & Lectures

Arts & Lectures serves the university and the community by presenting more than 200 public events each year. These events enhance the intellectual life of the campus and provide unique and varied cultural programming.

Each year, about 20 professional artists and ensembles perform in Campbell Hall, or in other class, workshop or demonstration settings on campus and in the community. Dance, music and theater events range from classical to popular to avant-garde.

About 80 speakers present lectures on subjects of enormous diversity from science and industry to outdoor adventure, history, the arts and current headlines. Numerous award-winning authors give readings of their work. Of broad general interest, the lectures are often co-sponsored with other organizations and programs.

Each quarter, new film series and special screenings are presented. The series cover a wide range of style and content and often complement academic courses. Frequently, filmmakers are on hand to introduce their films and answer audience questions. The Departments of Dramatic Art and Music also offer extensive and varied performances in classical and jazz music, classic and contemporary theater, and dance. The Arts & Lectures ticket office is located in Building 402. Telephone: 893-3535.

Academic Units

College of Creative Studies

The College of Creative Studies at UCSB is unique in the UC system. It enrolls undergraduate students with demonstrated talent for independent work in the arts, mathematics, or the sciences. Emphases are offered in art (painting, sculpture, and book arts), biology, chemistry, literature, mathematics, music composition, and physics. Work in the college leads to the Bachelor of Arts degree in all emphases, and, optionally, to the Bachelor of Science degree in chemistry, mathematics, and physics. In 1992-93, approximately 200 students were enrolled in the college.

College of Engineering

The College of Engineering offers professional undergraduate education in five disciplines: chemical, electrical, mechanical, and nuclear engineering; and computer science. The chemical, electrical, mechanical, and nuclear engineering programs are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The computer science program is accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board. The college currently has a combined undergraduate and graduate enrollment of approximately 1,700 students.

College of Letters and Science

The College of Letters and Science, which enrolls over 15,000 undergraduates, is the largest undergraduate college on the UCSB campus. The college offers nearly 80 majors, including a number of interdisciplinary programs, and awards four degrees: Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts, and Bachelor of Music.

Graduate Division

Through the Graduate Division, UCSB offers advanced programs of study and research leading to the Master of Arts, Master of Music, Doctor of Musical Arts, Master of Science, and Doctor of Philosophy degrees. It also awards the Master of Fine Arts in studio art subjects and Master of Education degrees, as well as several credentials and certificates.

Graduate School of Education

The Graduate School of Education prepares researchers, teachers, and administrators in education. Two-thirds of the graduate students are working on their Doctor of Philosophy or Master of Arts degrees. Another one-third are enrolled in the teaching credential program to qualify for elementary and secondary school teaching. A number of students not only work on advanced degrees but also qualify for advanced specialist or service credentials in administration, reading, school psychology, and special education.

Undergraduate Degrees and Majors

College of Creative Studies

- Creative Studies (B.A. and B.S.)
  - *with emphases in:*
  - Art
    - *with concentrations in:*
    - Painting, Sculpture, or Book Arts (B.A.)
  - Biology (B.A.)
  - Chemistry (B.A. and B.S.)
  - Literature (B.A.)
  - Mathematics (B.A. and B.S.)
  - Music—Theory and Composition (B.A.)
  - Physics (B.A. and B.S.)

College of Engineering

- Chemical Engineering (B.S.)
- Computer Science (B.S.)
- Electrical Engineering (B.S.)
- Mechanical Engineering (B.S.)
- Nuclear Engineering (B.S.)

College of Letters and Science

Division of Humanities & Fine Arts

Departmental Majors

- Art History (B.A.)
- Art (B.A.)
- Chinese (B.A.)
  - *with concentrations in:*
  - Classical Chinese
  - Mandarin Chinese
- Classics (B.A.)
- Dance (B.A. and B.F.A.)
- Dramatic Art (B.A.)
  - *with concentrations in:*
  - Directing
  - Dramatic Literature, Theory, and Theatre History
  - Playwriting
  - Theatre Design and Technology
  - *(see also Theatre)*
- English (B.A.)
  - *with optional emphasis in:*
  - Creative Writing
- French (B.A.)
  - *with emphases in:*
  - Linguistics
  - Literature
- Germanic Languages and Literatures (B.A.)
  - *with emphases in:*
  - German Studies
  - Literature
- Greek (B.A.)
- History (B.A.)
- History of Public Policy (B.A.)
- Italian Cultural Studies (B.A.)
- Japanese (B.A.)
- Latin (B.A.)
- Linguistics (B.A.)
- Music (B.A.)
- Music (B.M.)
  - *with concentrations in:*
  - Composition
  - Guitar
  - Harpsichord/Organ
  - Orchestral Instruments
  - Piano
  - Voice
- Philosophy (B.A.)
  - *with concentrations in:*
  - Analytical Reasoning
  - Core Philosophy
  - Ethics and Public Policy
- Portuguese (B.A.)
- Religious Studies (B.A.)
- Slavic Languages and Literatures (B.A.)
- Spanish (B.A.)
- Theatre (B.F.A.)
  - *with emphasis in:*
  - Acting

Interdepartmental Majors

- Asian Studies (B.A.)
- Classical Archaeology (B.A.)
  - *with concentrations in:*
  - Greek Archaeology
  - Roman Archaeology
- Classical Civilization (B.A.)
- Comparative Literature (B.A.)
- Film Studies (B.A.)
- Individual (B.A.)
- Interdisciplinary Studies (B.A.)
  - *(open only to upper-division students)*
- Latin American and Iberian Studies (B.A.)
- Medieval Studies (B.A.)
- Renaissance Studies (B.A.)

Division of Mathematical, Life, and Physical Sciences

Departmental Majors

- Aquatic Biology (B.A.)
- Biochemistry–Molecular Biology (B.A.)
- Biological Sciences (B.A.)
- Biopsychology (B.S.)
- Botany (B.A.)
  - *with optional concentration in:*
  - Aquatic Botany
- Chemistry (B.A. and B.S.)
- Ecology and Evolution (B.A.)
- Geography (B.A.)
- Geological Sciences (B.A.)
- Geological Sciences (B.S.)
  - *with concentrations in:*
  - Engineering Geology/Hydrogeology
  - General Geology
  - Geochemistry
  - Marine Geology
  - Paleobiology and Evolution

Geophysics (B.S.)
Mathematical Sciences (B.A.)
Mathematical Sciences (B.S.)
with concentrations in:
Operations Research
Physical Sciences
Mathematics (B.A.)
with concentrations in:
High School Teaching
Liberal Arts
Mathematics (B.S.)
Microbiology (B.A.)
with concentrations in:
Biomedical Sciences
General Microbiology
Genetic Engineering
Pharmacology (B.A. and B.S.)
Physics (B.A. and B.S.)
Physiology and Cell Biology (B.A.)
Psychology (B.A.)
Statistical Science (B.A.)
Statistical Science (B.S.)
with concentrations in:
Actuarial Statistics
Applied Statistics
Probability and Statistics
Zoology (B.A.)

Interdepartmental Majors

Computer Science (B.A.)
Environmental Studies (B.A.)
with emphases in:
Social Science/Humanities
Natural Science
Individual (B.A.)
Interdisciplinary Studies (B.A.)
(open only to upper-division students)

Division of Social Sciences

Departmental Majors

Anthropology (B.A.)
with emphases in:
Cultural
Physical
Black Studies (B.A.)
Business Economics (B.A.)
with optional concentration in:
Accounting
Chicano Studies (B.A.)
Communication (B.A.)
Economics (B.A.)
Political Science (B.A.)
with optional emphases in:
International Relations
Public Service
Sociology (B.A.)

Interdepartmental Majors

Economics–Mathematics (B.A.)
Individual (B.A.)
Law and Society (B.A.)
with optional emphasis in:
Criminal Justice
Women's Studies (B.A.)

Graduate Degrees and Majors

College of Engineering

Chemical Engineering (M.S. and Ph.D.)
Computer Science (M.S. and Ph.D.)
Electrical and Computer Engineering (M.S. and Ph.D.)
with emphases in:
Computer Engineering
Solid State
Signals and Systems
Wave Electronics and Technology
Materials (M.S. and Ph.D.)
Mechanical Engineering (M.S. and Ph.D.)
Nuclear Engineering (M.S.)

College of Letters and Science

Anthropology (M.A. and Ph.D.)
with specializations in:
Archaeology
Biological Anthropology
Ethnology
Applied Mathematics (M.A.)
Art History (M.A. and Ph.D.)
Art Studio (M.F.A.)
with specializations in:
Ceramics
Painting
Printmaking
Sculpture
Asian Studies (M.A.)
with optional emphasis in:
East Asian Languages and Cultural Studies
Biochemistry–Molecular Biology (M.A. and Ph.D.)
Biology (M.A. and Ph.D.)
with emphases in:
Ecology, Evolution, and Marine Biology
Molecular and Cellular Biology
Chemistry (M.A., M.S., and Ph.D.)
Classics (M.A. and Ph.D.)
Communication (M.A. and Ph.D.)
Ph.D. with optional emphasis in:
Human Development
Comparative Literature (M.A. and Ph.D.)
Counseling Psychology *(see Graduate School of Education)*
Dramatic Art (M.A. and Ph.D.)
Economics (M.A. and Ph.D.)
M.A. with optional emphasis in:
Business Economics
Education degrees *(see Graduate School of Education)*
Engineering degrees
(see College of Engineering)
English (M.A. and Ph.D.)
Ph.D. with optional emphasis in:
Women's Studies
French (M.A. and Ph.D.)
with optional emphasis in:
Romance Linguistics
with specialization in:
French Literature and Linguistics
Geography (M.A. and Ph.D.)
Geological Sciences (M.A. and Ph.D.)
Geophysics (M.S.)
Germanic Languages and Literatures (M.A., Ph.D.)
Ph.D. with optional emphasis in:
Women's Studies
Hispanic Languages and Literatures (Ph.D.)
with optional emphasis in:
Romance Linguistics
History (M.A. and Ph.D.)
with optional emphasis in:
Public History
Ph.D. with emphasis in:
Women's Studies
Latin American and Iberian Studies (M.A.)
Linguistics (M.A. and Ph.D.)
Ph.D. with optional emphasis in:
Human Development
Mathematics (M.A. and Ph.D.)
Music (M.A., M.M., Ph.D., and D.M.A)
M.M. with emphasis in :
Orchestral Winds
M.M. and D.M.A. with emphases in:
Voice
Conducting
Keyboard
Strings
M.A. and Ph.D. with emphases in:
Composition
Ethnomusicology
Musicology
Theory
Philosophy (M.A. and Ph.D.)
Physics (Ph.D.)
Political Science (M.A. and Ph.D.)
with optional emphasis in:
International Relations
Portuguese (M.A.) (Ph.D. in Hispanic Languages and Literatures)
with optional emphasis in:
Romance Linguistics
Psychology (M.A. and Ph.D.)
Ph.D. with optional emphasis in:
Human Development
Religious Studies (M.A. and Ph.D.)
Sociology (M.A. and Ph.D.)
Ph.D. with optional emphases in:
Human Development
Women's Studies
Spanish (M.A.)
with optional emphasis in:
Romance Linguistics
with specializations in:
Language and Culture
Linguistics
Spanish Literature
(Ph.D. in Hispanic Languages and Literatures)
Spanish and Portuguese (M.A.)
with optional emphasis in:
Romance Linguistics
Speech and Hearing Sciences (M.A. and Ph.D.) (Ph.D. joint degree with UCSF)
No new admissions for 1991-1993.
Statistics (M.A.)
Statistics and Applied Probability (Ph.D.)
Zoology (M.A.)

Graduate School of Education

Teaching Credentials

Multiple Subject (Elementary):
with optional emphasis in:
Bilingual Crosscultural in Spanish

Single Subject (Secondary) in English, Mathematics, French, German, Spanish, Life Science, Physical Science, or Social Science

Services Credentials

Pupil Personnel Services:
School Psychology
Preliminary Administrative Services
Professional Administrative Services

Specialist Credentials

Reading/Language Arts
Learning Handicapped
Severely Handicapped

Masters and Doctoral Degrees in Education

with emphases in:
Counseling Psychology (M.Ed. only)
Educational Policy, Organization, and Leadership (M.A. and Ph.D. only)
Educational Psychology
Human Development and Disability
Language, Culture, Literacy
Research Methodology
Teaching and Learning
Early Childhood (M.A. only)
Reading (M.A. only)
Human Development (Ph.D. only)
Special Education

Master of Arts in Counseling Psychology

Doctorate in Counseling/Clinical/School Psychology

Additional Academic Programs

Education Abroad Program

The University of California offers an overseas study program in cooperation with 100 host universities and colleges in 32 countries throughout the world. More than 1,500 UC students, primarily undergraduates, are expected to take part in this program in 1993-1994. Participating students remain registered on their home campuses while studying abroad and receive full academic credit for their work. About 500 international students will attend the University of California under the auspices of the Education Abroad Program (EAP) in 1993-1994, with scholarships provided through UC and their home institutions.

Full-year study programs are available in Australia, Austria, Brazil, Canada, Chile, China, Costa Rica, Denmark, Egypt, France, Germany, Ghana, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Mexico, New Zealand, Norway, Spain, Sweden, Taiwan, Thailand, and the United Kingdom.

EAP also offers short-term and special-focus programs. One-semester options are available in Brazil, Canada, Chile, China, Hungary, Italy, Indonesia, Korea, Russia, and Thailand. Intensive language programs that can be taken independently are available in Denmark, Mexico, and Thailand. A study and research program is offered in Mexico. One-quarter topical biology and medical programs are offered in Costa Rica, and a Global Security Studies program is available in Japan.

Selection of UC undergraduates is subject to the following minimum qualifications: 3.0 cumulative grade-point average at the time of application and maintained through departure (not required for some of the short-term and special-focus programs); support of the UCSB EAP Selection Committee; and completion of language courses as required, with a maintained overall grade-point average of 3.0. Many programs require two years of college-level training in the language of the host country. EAP opportunities are also open to qualified graduate students who have completed at least one full year of graduate work and have support of their academic department and graduate dean.

University of California faculty who serve as directors and associate directors at most Study Centers provide academic counsel to students while abraod. Full credit is granted for courses satisfactorily completed, and approved courses are recorded on official UC transcripts. With careful planning, most EAP students make normal progress toward their UC degrees. Application of credits earned abroad toward major or graduation requirements depends upon UC departmental and campus criteria.

Participants pay the same fees as they pay at UCSB, as well as room, board, books, and personal travel and living expenses. The only additional costs directly related to the Program are for round-trip transportation and an on-site orientation and intensive language program (where applicable). The cost of studying abroad is often comparable to that of studying on a UC campus, although costs vary from country to country.

Many forms of financial assistance are available to EAP participants. Students already receiving UC financial aid maintain their eligibility for grants, loans, and scholarships while studying on EAP. Financial aid packages take into account the cost of participating in EAP, and students who might not normally be eligible for financial aid may qualify for the period they are on EAP. In addition to UC financial aid, EAP provides support through various scholarships, fellowships, and grants. Campus scholarships may also be available, based on country, region, academic merit, or academic discipline. Students should contact the campus EAP and Financial Aid office for additional information.

The campus EAP office is located in Girvetz Hall 1231. An adviser there can provide full details about the academic programs abroad, requirements, and application procedures. Staff will put students in touch with recent participants and academic advisers. Academic catalogs and listings of EAP courses previously taken by UC students are available. Course listings for each EAP location are also available on line through the experimental "use" command on Melvyl.

UCSB Washington Center Program

The UCSB Washington Center Program supports and supervises students who pursue internships, research, or creative activities in the nation's capital. The program is open through a competitive application process to upper-division students in all majors, including art history, communication, economics, English, history, law and society, political science, psychology, and sociology. Students may enroll during any academic quarter, including summer, and may earn up to eight units of internship credit (Interdisciplinary Studies (INT) 192DC) and five units of independent study credit (INT 199DC). Students receive credit toward graduation with INT 192 and INT 199, but need consent from their department to apply the units to their major. Students who meet the financial need and other eligibility criteria may apply for a President's Washington Scholarship to help cover supplemental internship costs.

The UCSB Washington Center also offers a unique opportunity for UCSB faculty members and graduate students to teach and pursue research in Washington. UCSB faculty members and

Education Abroad Program host universities for 1993-94

Australia
The Australian National University, Canberra
The Flinders University, Adelaide
La Trobe University, Melbourne
Monash University, Melbourne
The University of Adelaide
The University of Melbourne
The University of New England, Armidale
The University of New South Wales, Sydney
The University of Queensland, Brisbane
The University of Sydney
The University of Wollongong
Austria
University of Vienna
Brazil
Pontifical Catholic University of Rio de Janeiro (PUC – Rio)
Canada
University of British Columbia, Vancouver
Chile
Catholic University of Chile (pending approval), Santiago
University of Chile, Santiago
China
Nankai University, Tianjin
Peking University, Beijing
Costa Rica
University of Costa Rica, San José
Monteverde Institute, Monteverde
Denmark
University of Copenhagen
Egypt
American University in Cairo
England
University of Birmingham
University of East Anglia, Norwich
University of Essex, Colchester
University of Exeter
University of Hull
University of Kent at Canterbury
University of Lancaster
University of Leeds
University of London (Queen Mary and Westfield College)
University of Sheffield
University of Sussex, Brighton
University of York
France
Ecole Normale Supérieure (pending approval), Paris
Ecole Normale Supérieure at Fontenay-Saint-Cloud, Paris Region
Ecole Polytechnique at Palaiseau, Paris Region
Paris Center for Critical Studies
University of Bordeaux
University of Grenoble, including Institut d'Etudes Politiques
University of Lyon
University of Pau
University of Poitiers
University of Toulouse
Germany
Georg-August University of Göttingen
Ghana
University of Ghana, Accra
Hong Kong
Chinese University of Hong Kong (CUHK)
Hungary
Eötvös Loránd University, Budapest
India
Jawaharlal Nehru University (agreement pending), New Delhi
University of Delhi
Indonesia
Gadjah Mada University, Yogyakarta
Indonesian Art Institute (ISI), Yogyakarta
Ireland
University College, Cork
University College, Galway
Israel
The Hebrew University of Jerusalem
Italy
The Bisonte International School of Graphic Arts, Florence
Bocconi University, Milan
Scuola Normale Superiore, Pisa
University of Bologna
University of Padua
University of Venice
Venice Academy of Fine Arts
Japan
Doshisha University, Kyoto
Inter-University Center for Japanese Language Studies (IUC), Yokohama
International Christian University (ICU), Tokyo
Kyushu Institute of Technology, Kitakyushu (inactive 1993-94)
Kyushu University, Fukuoka (inactive 1993-94)
Meiji Gakuin University, Yokohama
Nagoya University
Osaka University
Sophia University, Tokyo
The University of Tokyo
Tohoku University, Sendai
Tokyo Institute of Technology
Korea
Yonsei University, Seoul
Mexico
National Autonomous University of Mexico, Mexico City
San Nicolás de Hidalgo University of Michoacan, Morelia
New Zealand
Lincoln University, Christchurch
Massey University, Palmerston North
The University of Auckland
The University of Otago, Dunedin
The University of Waikato, Hamilton
Victoria University of Wellington
Norway
University of Bergen
Russia
Alexander Herzen Russian State Pedagogical University, St.Petersburg
North-West Centre for Public Administration, St. Petersburg
Scotland
University of Edinburgh
University of Glasgow
University of St. Andrews
University of Stirling
Spain
Complutense University of Madrid
University of Alcalá de Henares
University of Barcelona
University of Granada
Sweden
University of Lund
Taiwan
National Taiwan University (agreement pending), Taipei
Thailand
Chiang Mai University, Chiang Mai
Chulalongkorn University, Bangkok
Wales
University College of Wales, Aberystwyth

graduate students in residence advise interns in conducting research and writing major research papers. UCSB faculty, along with faculty from UC Davis and UCLA, offer upper-division courses at the Center in diverse academic fields; students may receive credit for any of these courses.

For further information, contact the UCSB Washington Center or the Special Programs Office in the College of Letters and Science at UCSB.

Summer Sessions

A summer session is offered each year at UCSB. The Summer Sessions program includes lower- and upper-division courses ranging from anthropology to statistics, nine-week courses in chemistry and foreign languages, special study undergraduate courses, and some graduate courses. A few courses are also offered on site at the UCSB Ventura Center.

Summer Sessions also includes institutes in French Studies, German Language and Culture, and new for 1993, Hispanic Languages and Culture. These residential six week graduate-level institutes are structured for the needs and schedules of high school and college teachers and other working professionals coming from all over the United States and Canada. The program is ideal for teachers who cannot pursue their studies during the academic year because of professional obligations.

In addition, an institute in Portuguese, now in its twentieth year, offers courses from beginning and intermediate Portuguese language to upper-division courses in Brazilian and Portuguese literatures and cultures. Participants may reside in a language house in Isla Vista.

The Summer Vocal Institute, led by internationally renowned mezzo-soprano Elizabeth Mannion, offers a program of vocal study providing an excellent environment in which college and professional singers may further their technical training, repertoire, and opera roles.

Three special pre-college residential programs for high school students are offered during the summer sessions.

The UCSB High School Juniors Program offers qualified high school students, who have completed their junior year,

college level lower-division academic courses ranging from anthropology to statistics. Students can receive full university credit and will experience college life in a supervised environment.

The College of Creative Studies Young Scholars Summer Program is unique in the UC System and its purpose is to encourage gifted and talented students. College credit may be earned in art, biology, literature, math, and physics. These courses are designed to instill the desire for advanced and independent work in the student entering grades 9-12.

The Young Artists Vocal Institute offers students in grades 10 through 12 an intensive six-week college preparatory program for young vocalists. The program is directed by internationally acclaimed mezzo-soprano Elizabeth Mannion and implemented by a faculty of outstanding master performers and teachers. The institute provides an excellent environment where high school singers may further their artistic skills.

Summer Sessions is a self-supporting non-profit unit of UCSB. It is supported by student fees and receives no state funds. The Summer Sessions Bulletin, published each spring, contains a full list of courses and information regarding Summer Sessions fees, rules, and regulations. The Bulletin and application forms for summer session, special institutes, and programs are available from the UCSB Summer Sessions Office, Cheadle Hall 1317. Telephone: 893-2047.

University Extension

University Extension, the continuing education division of UCSB, offers courses, workshops, and seminars for personal and professional development, and for job-related training year-round in Santa Barbara, Ventura, San Luis Obispo, and Kern counties. University Extension offers courses and seminars in all of the programs listed on this page as well as in art, writing, business, engineering, health science, professional psychology, career development, personal development, and test preparation. A non-profit organization, Extension is supported by student fees and receives no state funds.

Concurrent Enrollment through Extension

Concurrent Enrollment in regular campus courses through Extension is a cooperative arrangement that enables qualified members of the general public to enroll in campus undergraduate or graduate courses for credit. The program is administered by Extension, and course credit granted appears on an Extension transcript.

Concurrent Enrollment through Extension may be used as a path toward a part-time or full-time degree program or as a way to study subjects of personal or occupational interest. Credit earned may be used by matriculated students, upon petition, to satisfy undergraduate degree requirements at UCSB, but grades are not included in the UC grade-point average and course work does not apply toward academic residency. Concurrent enrollment does not constitute admission to the University of California.

Additional information about all University Extension programs, including English language programs and concurrent enrollment, is available from the UCSB Extension office at 6550 Hollister Avenue, Goleta, CA. Telephone: 893-4200.

UCSB EXTENSION PROGRAMS

Sequential programs, leading to a certificate or professional designation, are available in the following fields:

Accounting
Air Quality Management
Alcohol & Other Drug Studies
Applied Software Design
Business Management
Counseling Skills
Decorative Arts
Engineering Management
Environmental & Interior Design
Government Contract Management
Graphic Design
Hazardous Materials Management
Human Resource Management
IBM Microcomputer Specialist
Land Use & Environmental Planning
Legal Assistantship
Macintosh Power User
Managerial/Supervisory Skills Development
Marketing
Production/Inventory Management
Professional Presentation Skills
Purchasing & Materiel Management
Tax Preparation
Teaching English as a Second Language
Total Quality Management
Workers' Compensation Administration

English Language Program

University Extension offers four-week and ten-week intensive English courses (integrated skills, content and skills electives, self-study, language and computer labs) to develop and improve English language proficiency of foreign students and professionals. False beginner to advanced levels of study are provided and students may choose emphases in academic skills, communication skills, and/or business English. Also provided are immigration and academic counseling, conversational partners program, housing assistance, and various social, sports and travel opportunities.

Specialized certificate programs are available in American Language and Culture, Teaching English as a Foreign Language (TEFL), American Business English (two-week and four-week courses), English for International Business (two-week seminar).

All courses offered by the English language Program can be customized for groups from educational institutions and companies.

Off-Campus Studies

The university has one site in Ventura County where off-campus students who qualify for regular admission may participate in a limited number of degree programs. Assistance with admission and enrollment procedures, as well as academic counseling, are provided at the off-campus location. The UCSB Ventura Center offers courses leading to baccalaureate degrees in anthropology, English, history, interdisciplinary studies, law and society, political science, psychology, and sociology. A part-time master's degree in computer science and computer engineering is also available. Further information is available from the Off-Campus Studies office, 6550 Hollister Ave., Rm. 1414, telephone: 893-4056; or from the UCSB Ventura Center, 3585 Maple St., Suite 112, Ventura, CA 93003. Telephone: (805) 644-7261.

Research at UCSB

National Research Centers

UC Santa Barbara is home to four national research centers: the Center for Quantized Electronic Structures, the Materials Research Laboratory, the National Center for Geographic Information and Analysis, and the Optoelectronics Technology Center. All centers offer specialized research opportunities and a multidisciplinary environment for study at the undergraduate, graduate, and postdoctoral levels.

Center for Quantized Electronic Structures (QUEST)

QUEST, a National Science Foundation Science and Technology Center has as its focus a frontier field in microelectronics: the investigation and development of semi-conducting materials containing features known as quantum structures. Such microstructures—which exhibit quantum effects in one, two, or three dimensions—show promise as a basis for revolutionary new electronic devices.

Recently renewed by NSF for funding to 1997, the center is composed of faculty from the departments of chemical and nuclear engineering, chemistry, electrical and computer engineering, materials, and physics, and crosses the boundaries of traditional academic disciplines. To enhance linkages with relevant industry, government, and other university research, QUEST maintains such programs as a distinguished lecturer program, a scholar-in-residence program, and summer workshops on quantum structures.

World-class laboratory facilities support the research being done at QUEST, including a 3,500-square-foot clean room with a Class 100 lithographic capability, a unique crystal growth facility featuring molecular beam epitaxy coupled to ultra-high vacuum processing, a focused ion beam system, optoelectronics and photo-luminescence laboratories, and many other laboratories for teaching and research.

The center conducts education programs to involve K-12 students in cutting edge science and to provide research opportunities for high school students, teachers, and undergraduates.

Materials Research Laboratory (MRL)

The Materials Research Laboratory was established in September, 1992 and currently involves 29 faculty form nine departments. A new MRL building is planned for early 1995. The scientific activities are focused around three thrust areas, as outlined below, together with seed projects and an educational outreach program.

Thrust Research

Solution Templating. The focus is on the chemical and physical basis of the low temperature synthesis of materials from solutions using either crystalline or molecular templates. The research aims both to understand the basic mechanisms of templating and to explore the synthesis of new materials with applications in electro-optics, nano-composites, catalysis/gas separation, and biotechnology. The templating processes to be explored range from: a) biological processes where genetically synthesized molecular sheets act as templates for biomineralization, to b) the formation of inorganic molecular sieves, e.g. zeolites, around molecular templates, to c) the epitaxial growth of thin films on single crystal templates by a process that starts with solution precursors.

Self-Assembling Complex Fluids. This thrust has its major focus on the creation and control of materials that pattern on various length scales which vary from nanometers to submacroscopic. Such structured materials have potential impact on a variety of technologies, including microelectronics, chemical sensors, adhesives, coatings, and high performance composites. The thrust has two principal axes: (a) a biophysical systems subthrust is mainly concerned with multicomponent membranes, with a close interplay between physical measurements and macromolecular modification via genetic engineering techniques; (b) a hydrodynamics subthrust is initially concentrating its activity on elucidating the patterns engendered by externally induced flows and various thermoelectric instabilities in specifically synthesized liquid crystalline polymers.

High Performance Electrical and Optical Polymers. The focus of the research in this thrust is on the class of materials known as conducting polymers—materials with a unique combination of properties: the electrical and optical properties of metals and semiconductors and the mechanical properties and mechanical advantages of polymers. These materials offer promise for use as electrical conductors and in novel devices (for example, flexible light emitting diodes, flexible thin film FETs, etc.). Fundamental issues of current interest include the processibility of such materials and the formtion of network conductors—polyblends of conducting polymer in an insulating host—in which the conductive component forms a connected interpenetrating network with a remarkably low percolation threshold.

National Center for Geographic Information and Analysis (NCGIA)

A consortium consisting of UC Santa Barbara, the State University of New York at Buffalo, and the University of Maine in Orono, the NCGIA was established in 1988 with funding from the National Science Foundation. NCGIA efforts focus on developing and promoting the use of geographical information systems (GIS) in the natural and social sciences and in the applied, planning, and engineering sciences. In 1990 the Santa Barbara Center was named the David Simonett Center for Spatial Analysis.

NCGIA research topics include: the accuracy of spatial databases, languages of spatial relations, the use and value of geographic information in decision-making, the architecture of very large spatial databases, spatial decision support systems, visualization of the quality of spatial information, spatio-temporal reasoning, the design of user interfaces, integration of GIS and remote sensing, and methods of spatial analysis. Faculty at the three institutions are broadly interdisciplinary, including researchers in geography, surveying engineering, computer science, sociology, political science, linguistics, and psychology.

In addition to its research programs, NCGIA develops and distributes teaching materials in support of GIS courses, and actively promotes GIS in K-12 education through programs of workshops. Its outreach program links NCGIA to the GIS software development industry and to organizations using GIS. The center's visiting scholar program attracts researchers from around the world, and the center has strong links with similar organizations inothercountries.

Optoelectronics Technology Center (OTC)

In 1990 the Defense Advanced Research Projects Agency (DARPA) awarded monies to establish three national centers to advance optoelectronics technology in response to the need for the U.S. to become more competitive in this critical area. One of these awards helped establish the Optoelectronics Tehcnology Center (OTC), which is a consortium of four major universities: University of California at Santa Barbara (UCSB), Cornell University, University of California at San Diego (UCSD), and Rensselaer Polytechnic Institute (RPI)

OTC's overall mission is to enhance significantly the state of optoelectronics technology by developing new materials and fabrication techniques, new devices, and new optoelectronic circuits. This overall objective is accomplished by bringing together a unique combination of faculty expertise, state-of-the-art facilities, and key collaborations with industrial and government laboratories.

The use of optoelectronic integration for optical interconnection is the single unifying theme at OTC. Within this theme are three specific systems-level focuses: 1) computer data links, 2) optical computing, and 3) high-speed communication and control. This work is organized into four technology areas that make use of the complementary skills and resources of the Center's faculty and facilities. The technology areas are: a) materials growth and processing, b) optoelectronic integrated circuits and related components, c) high-speed devices and measurement techniques, and d) optoelectronic computing technology.

Organized Research Units

Nine organized research units (ORUs) provide unusual opportunities for students and faculty to do basic and applied research in a variety of disciplines. The following ORUs operate outside of the established academic teaching departments at UCSB:

- **Algebra Institute, Nonlinear Sciences Program**
- **Center for Chicano Studies**
- **Community and Organization Research Institute**
- **Computer Systems Laboratory**
- **Institute for Crustal Studies**
- **Institute for Polymers and Organic Solids**
- **Marine Science Institute**
- **Neuroscience Research Institute**
- **Quantum Institute**

Algebra Institute, Nonlinear Sciences Program

The Algebra Institute, Nonlinear Sciences Program supports research in nonlinear analysis and interdisciplinary scientific studies involving such fields as biology, chemistry, engineering, mathematics, and physics. The common ingredient of the activities is the underlying nonlinear mathematics. The program conducts a seminar series which brings outstanding speakers to UCSB. It also disseminates information about the activities of the UC systemwide program in nonlinear sciences, including workshops, a yearly conference and summer school, and various grant programs.

Center for Chicano Studies

The Center for Chicano Studies supports and conducts basic and applied research on the history and contemporary condition of Chicanos/Latinos in the United States. It also organizes and promotes a variety of special public-service events (i.e. conferences, distinguished visiting speakers, exhibits) designed to improve upon the understanding and appreciation of Chicano/Latino society and culture.

University faculty and students, representing a broad range of disciplines from both the social sciences and humanities, are actively involved with the center's research and public service missions. The center is particularly interested in encouraging the development of policy relevant research which may aid Chicano/Latino organizations, public offices, and policy makers to address problems affecting the Chicano/Latino population in California.

Among the center's most successful programs are those which have focused attention on agricultural labor, farm worker communities, immigration, and education.

Community and Organization Research Institute (CORI)

The Community and Organization Research Institute (CORI) conducts interdisciplinary basic and policy research on a wide spectrum of problems. Investigators are from the social and behavioral sciences, the humanities and in the sciences involved with environmental issues. Areas investigated range from archeology in the Americas, how health care data are acquired and used in research, the economics of criminal justice, and the linguistics of almost extinct and modern languages, to the sociology of religion. A number of centers have been established to focus on specific areas of interest. These include the Health Data Research Facility, the Global Studies Center, the Center for Labor Analysis, the Center for the Study of Business and Public Policy, Center for the Study of Discourse, the Goethe Studies Center, the Meso American Research Center, and the Research Group on the Developmentally disabled.

Computer Systems Laboratory/Center for Remote Sensing and Environmental Optics (CSL/CRSEO)

The CSL/CRSEO conducts basic and applied research using the tools of remote sensing and environmental optics, which depend on computers and digital image-processing technology. Research in various areas of Earth Systems Science is conducted including oceanography, hydrology, land vegetation, limnology and meteorology. Current research includes projects in physical, biological and optical oceanography in areas ranging from the North Atlantic to the Southern Ocean, Meteorology and the earth's radiation budget, electromagnetic and chemical properties of snow, hydrologic, surface climate and atmospheric modeling. The laboratory also develops software systems for machine processing of remotely sensed data from satellites and aircraft. It administers extra-mural research grants involving investigators from the geography and biological sciences departments, and is a major participant in the Sequoia 2000 project, involving the Digital Equipment Corporation and several UC campuses. The laboratory operates several internal networks of UNIX workstations, Macintoshes, and PCs, and has connections to the Internet and the Sequoia 2000 research network.

Institute for Crustal Studies

The purpose of the Institute for Crustal Studies is to increase the understanding of the earth's crust and lithosphere, including the portions below the sea floor. New technical approaches to issues involving the earth's crust are being explored through collaborative research projects between university, government, and industry. The research agenda of Crustal Studies includes tectonics, crustal structure and materials, earthquakes, and hazardous waste disposal. The research activities of the institute include faculty and students from the departments of biological sciences, engineering, geography, geological sciences, mathematics, and physics.

Institute for Polymers and Organic Solids

The Institute for Polymers and Organic Solids is an interdisciplinary effort on the frontier between physics, chemistry, and polymer science. It draws upon expertise from these fields to conduct fundamental research on a new class of materials: conjugated organic polymers with delocalized electronic conductivity, aniostropic linear and nonlinear optical properties, and novel electrochemical properties. To succeed in better understanding these novel materials, the institute has capabilities in experimental physics, synthetic chemistry, and polymer processing and characterization. Currently there are seven senior faculty members and more than 40 research personnel, including post-doctoral fellows, graduate students, and research assistants. The institute has become an international focal point for research in this field, with visitors from all over the world. Recent accomplishments of the Institute include the important contributions to the chemistry of the fullerenes, the development of efficient light emitting diodes made from conducting polymers, and the demonstration of a unique structure-property relation that leads to high performance nonlinear optical properties of semiconducting polymers. A current focus is directed toward a deeper understanding of the requirements for enhancement of the nonlinear optical properties of conducting polymers for use in photonics.

Marine Science Institute (MSI)

The Marine Science Institute (MSI) is the focus of marine research and program development at UCSB. MSI administers and supports research projects involving faculty and graduate students from 14 disciplines. Much of the research activity focuses on the resources of the California coast, although an increasing amount of effort is being directed toward an understanding of the world's oceans. Marine activities in the biological and geological sciences presently predominate, but there is increasing involvement of researchers from other disciplines, including chemical oceanography.

Neuroscience Research Institute (NRI)

The Neuroscience Research Institute (NRI) is concerned with the mechanisms that relate functions of an organism to the changes in its environment. There are two areas of emphasis in the Institute: the primary one being neuroscience and a smaller component dedicated to the adaptation of man to environmental stress. In neuroscience, NRI's primary purpose is to further basic fundamental research, of an interdisciplinary nature, at both the cellular and molecular levels. These programs include research on vision, nerve growth factors, ion channels, the development of neuronal pathways, elements of the cytoskeleton, synaptic transmission, and neuropharmacology. Environment stress research explores the effect of stress on various aspects of human physiology and involves cellular and molecular biology, biochemistry, physiology, and psychology.

Quantum Institute

The Quantum Institute is an interdisciplinary research unit in which the Center for Free Electron Laser Studies (CFELS) and the Center for Nonlinear Sciences (CNLS) are housed. CFELS offers opportunities for research in the biological, chemical, physical, and material sciences, using the unique properties of the UCSB free-electron laser in the far infrared red —particularly nonlinear and nonequilibrium studies. CNLS promotes interactions between researchers who share common interests in nonlinear problems and encourages undergraduate and graduate education in the nonlinear sciences.

Neither courses of instruction nor degree programs are offered through the organized research units. Additional information about the units is available from the Office of Research Development and Administration, Cheadle Hall 3227. Telephone: 893-4188.

Multicampus Research Units

Intercampus Institute for Research at Particle Accelerators (IRPA)

The Intercampus Institute for Research at Particle Accelerators (IRPA) is a Multicampus Research Unit (MRU) that has aided the experimental work of the high-energy physics groups at Santa Barbara, San Diego, and Davis campuses, particularly at the Stanford Linear Accelerator Center. Some of the work is now shifting to the Los Alamos National Laboratory with involvement of the Irvine, Riverside, and Santa Cruz campuses, as well as UCSB and UCSD.

Linguistic Minority Research Institute (LMRI)

The Linguistic Minority Research Institute (LMRI) is a Multicampus Research Unit of the University of California headquartered at UC Santa Barbara. The institute involves faculty and projects at all nine UC campuses. The LMRI was established to conduct research on the education of language minority students in the K-12 education sector with the long-range goal of improving these students' access to college. An emphasis is placed on collaborative research with schools and school systems. The major activities of the LMRI include sponsoring research projects; collaborating with schools and educational agencies; conducting annual meetings, research conferences, institutes and lectures, and disseminating information on language minorities. The institute is housed in Building 402, Room 223. Telephone: 893-2250. Facsimile: 893-8673.

Affiliated Units

Center for Black Studies

The Center for Black Studies conducts research on the social, historical, political, economic, and cultural meanings that have affected peoples of African heritage throughout the world. The center sponsors a faculty development program (dissertation fellows); organizes and presents seminars, lectures, and symposia; and serves as a liaison between the campus and the Santa Barbara community.

Engineering Research Centers

For information, see the chapter titled "College of Engineering."

UCSB Global Change Program

The UCSB Global Change Program was initiated in 1990 to formalize UCSB's long standing commitment to education and research on global change issues. The program consists of a campuswide consortium of over 40 faculty representing nine departments and several research institutes. Many participants are leaders in the development of the federal Global Change Research Program and are active with NASA'S Earth Observing System. The goals of the program are to promote interdepartmental research, graduate programs, and curriculum development on global change issues and to promote greater awareness of global change both on and off campus. Inquires should be directed to the Marine Science Institute. Telephone: 893-3764.

Institute for Theoretical Physics

The National Science Foundation's Institute for Theoretical Physics, initiated in 1979 on the UCSB campus, brings together physicists from all over the world to collaborate on cross-disciplinary problems. Areas of study include elementary particles and nuclei, condensed-matter physics, astrophysics, and cosmology. Approximately 45 researchers are in residence at the institute at any given time. One of the major centers of theoretical physics in the world, the institute is housed in Ellison Hall. Telephone: 893-4111.

Interdisciplinary Humanities Center

The Interdisciplinary Humanities Center was established in 1987 as part of the University of California's initiative to encourage humanities education and research in the university curriculum. The center promotes innovative forms of collaborative research and teaching, including projects that overlap traditional disciplines. Participants at the center include UCSB faculty and students, as well as distinguished visiting scholars from around the world. The center is housed in the Main Library, Room 3591. Telephone: 893-3907. Facsimile: 893-4336.

Natural Reserve System

The University of California administers 30 natural reserves throughout the state. The reserves are undisturbed natural areas representative of the ecological diversity of California. The UCSB campus has responsibility for four of the areas: the Carpinteria Salt Marsh Reserve, the Coal Oil Point Reserve, the Santa Cruz Island Reserve, and the Valentine Eastern Sierra Reserve, which consists of the Sierra Nevada Aquatic Research Laboratory (SNARL) and Valentine Camp. Available to students and faculty for teaching and research, the reserves provide outdoor laboratories and classrooms for field-oriented natural sciences. The four reserves are administered by the Marine Science Institute; inquiries about their use and scheduling may be directed to the Natural Reserve System office. Telephone: 893-4127.

Undergraduate Research

Faculty in all colleges at UC Santa Barbara encourage students to work with them on research projects in their area of interest. A variety of scholarships and fellowships assist students in carrying out their research. For detailed information, see the appropriate college office.

Academic Policies and Procedures

Academic policies and procedures described in this chapter apply to all students enrolled at UCSB. They include procedures related to enrollment and attendance, examinations, course credit, class status, the grading system, graduation, and student conduct and responsibility.

Additional academic requirements appear in the chapters "Undergraduate Education at UCSB" and "Graduate Education at UCSB."

Additional information on certain non-academic policies and procedures can be found in the Appendix.

Enrollment

For each quarter, every UCSB student must register in courses and pay fees and any other outstanding financial obligations. Each step must be completed at a specific time. Details of the registration procedure are included in the quarterly *Schedule of Classes.*

When undergraduate students are admitted to UCSB, their admission is provisional and contingent upon receipt of final official transcripts that verify information supplied in the admission application. Students who fail to provide the Admissions Office with final transcripts, as well as students whose transcripts fail to verify information supplied in the admission application, may have their admission revoked. Admission may be revoked even if students have enrolled in, attended, and completed classes at UCSB.

The failure of a student to complete the steps involved in enrollment by the specified deadlines will constitute presumptive evidence that the student has withdrawn from the university. A student whose status has been lapsed because of failure to register or pay fees and who wishes to resume study will be required to file an application for readmission and pay the associated nonrefundable fee. Graduate students who have lapsed for three quarters or less may apply for reinstatement. Neither readmission nor reinstatement is guaranteed.

Undergraduate students who are subject to academic disqualification may not officially enroll until and unless they are reinstated on academic probation by the dean or provost of their college or school. Students with outstanding financial obligations to the university have not completed enrollment until their financial obligations have been met or officially deferred by the Office of Billing, Accounts Receivable, and Collections (BARC).

Enrollment limits. The standard study load for graduate students is 12 graduate-level units, but 8 units of any level will maintain full-time status. For undergraduates, the average academic study load is 15 units a quarter; the minimum full-time study load is 12 units. Undergraduate students who are not able to carry at least 12 units a quarter must petition to register in a deficit program (or part-time status) at the time of registration. Students in the College of Letters and Science and the College of Creative Studies may petition for permanent approval of deficit programs. Under certain conditions, reduced fees may be available through the Office of the Dean of Students for undergraduate students who have advance permission to carry 10 or fewer units a quarter.

The maximum number of units allowable for undergraduates each quarter varies among the three colleges; these limits are published in the college announcements and the Schedule of Classes. Students who wish to enroll in more than the maximum number of allowable units must petition for an excess program at the time of registration.

Changes in course enrollment. After registration, changes in course enrollment can be made only with necessary approvals and no later than the deadlines published in the Schedule of Classes for that quarter. Such changes include dropping or adding courses and changing grading options. Unapproved withdrawal from or neglect of a course in which a student has enrolled will result in a failing grade.

Medical Evaluation Requirement

New and returning undergraduates who have not been officially enrolled on the UCSB campus for a year or longer are required to submit to the UCSB Student Health Service a completed medical history (UCSB SH Form 1A).

Examinations. The university recommends that students have a physical examination by a physician within one year prior to the first day of classes at UCSB. An examination is required for students who plan to participate in athletic activities or who are admitted to a UCSB teaching credential program. UCSB SH Form 1B is available for reporting this physical examination. Measles, mumps, rubella, and all other childhood immunizations should be completed and up-to-date prior to entering the university.

AIDS/HIV infection. It is university policy to base admissions on academic criteria, not medical information. Students with AIDS or HIV infection are encouraged to apply for admission and if accepted, should attend classes and participate in all aspects of campus life. Whenever possible, reasonable accommodations will be made for students with HIV infection. Information and counseling services concerning AIDS may be obtained at Student Health Services. Telephone: 893-3434.

Insurance. While health insurance is required only for international and graduate students, it is strongly recommended for all students. An optional accident and sickness insurance plan, which supplements the services offered by the Student Health Service, is available. Enrollment cards and more information are available at the Student Health Service insurance office. Telephone: 893-2592.

Absence and Withdrawal

Temporary absence during a quarter. Students enrolled at UCSB who have been or will be absent from classes for a brief period of time for reasons beyond their control should notify the Office of the Dean of Students. Regardless of the reasons for absence, students will be required to complete all coursework.

If an absence is late in the term and prolonged, making it impossible to complete the coursework on time, a student may petition the instructor to assign an Incomplete (I) grade. To receive an I grade, the student must submit the approved petition to the Office of the Registrar by the last day of the quarter in which the I grade is to be assigned. Refer to Incomplete Grades under the Grading System section in this chapter for complete regulations. A student who is unable to make this request personally may ask the Office of the Dean of Students to notify each instructor of the circumstances of the absence and to circulate a petition on the student's behalf. If the instructor agrees that an extension of time for completion of the course is justified and approves the petition, a grade of Incomplete will be assigned.

Complete withdrawal. Once fees have been paid or officially deferred, or after a financial aid agreement has been signed for a particular quarter, students then wishing to withdraw for that term without completing the enrollment process must do so by petition to the Office of the Registrar.

An enrolled student who withdraws from the university during a quarter without completing the quarter's work must obtain from the Office of the Registrar a General Petition for complete withdrawal. If the petition requirements are met and the approval of the college provost or dean is secured, the student's enrollment will be withdrawn without academic penalty. When undergraduate students submit the completed petition after the deadline for course withdrawal for the college in which the student is enrolled, the Office of the Registrar will enter a grade of W for each course in which the student is registered. A student who receives permission to withdraw completely during the early weeks of a quarter may be entitled to a partial refund of fees for that quarter as outlined in the Schedule of Classes. Upon request, the Office of the Dean of Students will process a General Petition for complete withdrawal for a student who cannot do so personally. If the provost of the college approves the petition, the student's academic record will reflect the process described above.

Students who enroll and subsequently discontinue work during a quarter without an approved petition for withdrawal will receive an F, NP (not passed), or U (unsatisfactory) grade, as appropriate, for each course in which they are enrolled for that quarter. Such students are ineligible for any refund of fees, and their future registration privileges may be curtailed or revoked.

Before withdrawing, students are advised to seek counsel from faculty, departmental, or college advisers, or from the Counseling Center so as to consider the full implications of this action. After withdrawal and before future registration, undergraduates must apply for and receive permission to be readmitted. The application deadlines for readmission or reinstatement significantly precede the start of the quarter. The deadlines are published in the Schedule of Classes. Graduate students should contact the Graduate Division.

Withdrawal from a course. To withdraw from a course after the established deadline each quarter, students must petition for and obtain the approval of the provost or dean of their college. The provost or dean may direct the Office of the Registrar to enter a grade of W, F, NP (not passed), or U (unsatisfactory), as appropriate, on the student's record, or may cancel the student's enrollment. The provost or dean may also stipulate that future enrollment in the same course be subject to approval.

Lapse of status. Lapse of status is the automatically enforced withdrawal of a student from the university. A student's status may be lapsed for any of these reasons: (1) failure to register by the deadlines stated in the Schedule of Classes; (2) failure to settle financial obligations when due or to make satisfactory arrangements with the Billing, Accounts Receivable, and Collections Office if payment cannot be made; or (3) failure to respond to official university notices. Students who have had their status lapsed are required to pay a prorated portion of all assessed fees up to the date of such lapse, in accordance with the fee refund schedule in the Schedule of Classes.

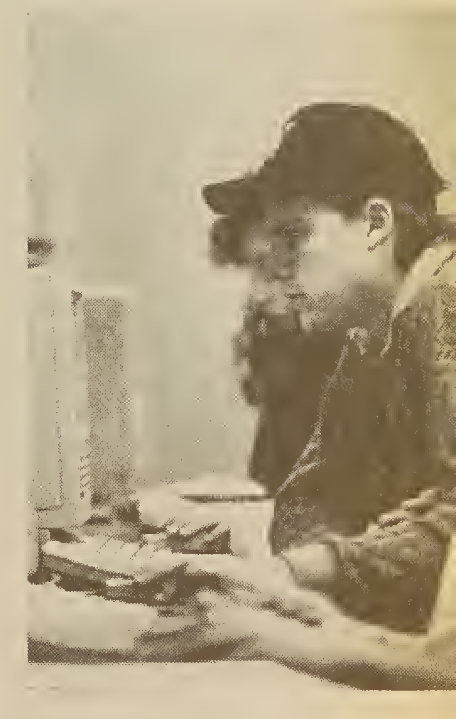
Leaves of absence. Petitioning for complete withdrawal is required only when an undergraduate withdraws during a quarter, has paid or promised to pay fees, or is requesting a refund of fees for the following quarter. At the conclusion of any quarter, undergraduates may leave the university for one or more quarters without petition, *provided they have not paid fees for the following term.* Although a student is not required to petition, written notification should be sent to the Office of the Registrar to prevent unnecessary university mailings.

Continuous registration is expected of all graduate students. Under extraordinary circumstances students may request a leave of absence from the dean of the Graduate Division.

Readmission. Undergraduate students who wish to register at UCSB after an absence, or after complete withdrawal, cancellation, or lapse of their registration, must file an application for readmission with the Office of the Registrar. Official transcripts of any work undertaken elsewhere in the interim must be submitted. The opening dates for applying for readmission are noted in the calendar at the beginning of this catalog. The application periods, which are also published in the Schedule of Classes, may be closed earlier without notice, pending enrollment restrictions.

Undergraduates who were on reinstatement-probation or who were subject to academic disqualification or dismissed by dean's action when they left the university will not be considered for readmission unless they are reinstated by the provost or dean of their college, who may establish the conditions of such reinstatement.

Graduate students who wish to register after a lapse of status may petition for reinstatement if the lapse was three quarters or less. If the lapse was more than three quarters, they must apply for readmission. Neither readmission nor reinstatement is automatic; the lapsed student's record will be evaluated against those in the current applicant pool.



Repetition of Courses

Certain courses may be repeated for credit, and these are identified in the course descriptions in this catalog. Repetition of any course other than these is subject to certain regulations, which pertain only to courses completed in the University of California, excluding those taken in UC Extension. The regulations are as follows:

1. An undergraduate student may repeat only those courses in which a grade of C-, D+, D, D-, F, or NP was awarded. Such courses may be repeated for letter or passed/not passed grades if the courses are so offered and if the student is eligible for that option. In no case, however, shall an NP grade replace an earlier letter grade in the computation of the grade-point average. A course in which an NP has been received may be repeated on a letter-grade basis if so offered.
2. Undergraduates who wish to repeat a course more than once must obtain the prior approval of their college provost or dean at the time of registration.
3. Degree credit for a course will be given only once, but the grade assigned at each enrollment will be permanently recorded on the student's transcript.
4. In computing the grade-point average of an undergraduate who repeats courses in which grades of C-, D+, D, D-, or F were received, only the most recently earned grade and grade points in each course will be used for the first 16 units repeated. Second attempts of W graded courses will not be added to this repeat total. In the case of additional repetitions, both initial and repeated grades will be used in the computation of the grade-point average. All grades, however, remain a part of the student's permanent record.
5. Undergraduate students who plan to repeat a UCSB course at another UC campus, or vice versa, must petition the provost or dean of their college to establish the equivalency of the courses prior to the repetition.
6. Courses taken at other colleges or universities or through UC Extension are not included in grade-point average computations.
7. Undergraduate students must indicate repeats at the time of registration and when adding courses to their study load.
8. Since many graduate courses are routinely repeated for credit, graduate students must consult the Graduate Division and their academic department if they wish to repeat a class for the purpose of substituting the second grade for the first.

Additional Enrollment Opportunities

Concurrent enrollment. Students who wish to enroll simultaneously in undergraduate courses at UCSB and at another college-level institution must obtain prior approval from the provost or dean of their college. Normally, such enrollment is approved only for courses that are not available in the curriculum at UCSB.

Simultaneous enrollment in two colleges or schools at UCSB, such as Engineering and Letters and Science or Creative Studies and Letters and Science, is also subject to the approval of the provost or deans of the colleges or schools involved.

Enrollment in UC Extension courses. A student who wishes to complete courses through UC Extension must obtain prior approval by petition to the provost or dean of the student's college. Extension courses are not included in determining grade-point averages and do not apply toward academic residence requirements. UC Extension courses in the 1-199 series may be counted toward undergraduate degrees upon petition. Degree credit is not given for Extension courses in the X300 and X400 series. Extension courses may apply to graduate degrees only if approved by the Graduate Council.

Examinations, Units of Credit, and Grades

Final examinations. Final examinations are required in all undergraduate courses except those specifically identified in the *Schedule of Classes.* The official dates and times of all final examinations are published in the *Schedule of Classes.* No instructor is authorized to change these times without prior approval of the Committee on Undergraduate Courses, and students are responsible for arranging their programs so that their final examinations will not conflict. Normally, examinations will be written, and a maximum time period for their completion will be announced in advance. No student will be permitted to exceed this maximum. The maximum time for a final in a non-laboratory course is three hours. Individual exceptions from finals are not permitted except in the case of comprehensive examinations.

Comprehensive examinations. At the end of a quarter in which an undergraduate student expects to graduate, the major department may: (1) examine the student's competency in the major field; (2) exempt the student from final examinations in courses offered by the department during that quarter; and (3) with the approval of the Committee on Undergraduate Courses, assign a credit value to such a comprehensive examination.

Credit by Examination. A student currently registered in any term who by reason of advance preparation believes her or himself to be adequately grounded in the materials and principles of a given course may petition for credit by examination for any course which may be listed in the current General Catalog of the University of California, Santa Barbara, or in any other subject appropriate for inclusion in a University curriculum. If credit is sought in a course not regularly offered at Santa Barbara, the petition must be approved by the Committee on Undergraduate Courses.

The student may elect, at the time her or his petition is initiated, to take the examination on the Passed/Not Passed basis, provided she or he is eligible for enrollment in a course on that basis during that term and will be assigned the grade she or he earned in the examination. Failure to pass the examination will be recorded as an F, NP, or U, whichever is appropriate, in the student's record.

Certain courses, by reason of special features of the instruction, such as extensive laboratory work, may not be considered appropriate for obtaining credit by examination. In addition, credit by examination is not available for a course in which the student has completed more advanced work in the same field, nor for an elementary course in a foreign language in which the applicant is a native speaker. All petitions for credit by examination must be approved by the dean of the appropriate college in advance of the date of the examination. Ordinarily, credit by examination is limited to 12 units.

Units of Credit

Credit for academic work at UCSB is expressed in units. Generally, the value assigned to a course is determined at the rate of 1 unit for every 3 hours of student work required each week. The unit value assigned to a course is determined by the number of class meetings each week and by the student's class preparation time.

Class Status

Undergraduate classification is determined by the number of units completed, as follows:

Classification	Units Required
Freshman	0.0 - 39.9
Sophomore	40.0 - 83.9
Junior	84.0 - 134.9
Senior	135.0 or more

Grading System

The following grades are used to report on the work of UCSB students:

Undergraduate Courses		Graduate Courses	
A	(excellent)	A	(excellent)
B	(good)	B	(good)
C	(adequate)	C	(adequate)
D	(barely passing)	D	(poor)
F	(not passing)	F	(not passing)
P	(passed)	S	(satisfactory)
NP	(not passed)	U	(unsatisfactory)
I	(incomplete)	I	(incomplete)
IP	(in progress)	IP	(in progress)
W	(withdrawal)		(withdrawal)

The grades A, B, C, and D may be modified by plus (+) or minus (-) suffixes. Grade points for each unit are assigned by the registrar as follows:

A+ = 4.0	A = 4.0	A- = 3.7
B+ = 3.3	B = 3.0	B- = 2.7
C+ = 2.3	C = 2.0	C- = 1.7
D+ = 1.3	D = 1.0	D- = 0.7

F, I, IP, P, NP, S, U and W = 0

Unit credit, but not grade-point credit, is assigned for P and S grades. For a description of the grading system in the College of Creative Studies, see the College of Creative Studies chapter in this catalog.

Incomplete Grades

The grade Incomplete (I) may be assigned when a student's work is of passing quality but is incomplete.

Petitioning process. An Incomplete grade may be placed on a student's record only if the completed Petition for an Incomplete Grade, signed by the instructor and accompanied by payment of the necessary processing fee, is on file in the Office of the Registrar by the last day of the quarter. In the absence of the petition or of a specific grade other than I, the registrar will record a grade of F, NP, or U.

Completion deadline. The student is entitled to have the grade of Incomplete replaced by a passing grade as determined by the instructor concerned, and to receive unit credit and appropriate grade points, upon satisfactory completion of the coursework *by the end of the term following the term in which the I grade was reported,* whether or not the student is enrolled for the quarter or the course is offered. Unless the work is completed and a grade is reported to the Office of the Registrar by the deadline, the I will be changed automatically to F, NP, or U, as appropriate.

If the instructor is unavailable, the chair of the department in which the course was offered is authorized to supervise completion of the work and to make the appropriate grade change. The chair also has authority to extend the deadline for completion in the event of unusual circumstances that would clearly impose an unfair hardship on the student if the original deadline were maintained.

An Incomplete grade on the student's record at the time of graduation in a course not necessary for the fulfillment of degree requirements may be removed only up to the end of the fifth week of the term following the date of graduation. An I grade may be removed by the student's submitting completed coursework to the faculty member for the assigning of a new grade. If not removed, the I grade remains an I permanently.

These deadlines do not apply to the following graduate courses: 594, 595, 596, 597, 598, or 599. Incomplete grades in these courses must be replaced by a letter grade or S or U, as appropriate, by the end of the last quarter in which the student is registered prior to receipt of the master's or doctoral degree.

Grade changes to Incomplete. A grade may be changed to an I only with the approval of the provost or dean of the student's college and successful completion of the petitioning process.

In-Progress Grades

The In-Progress grade (IP) may be assigned provisionally in all but the last term of special courses extending over more than one term. In the last term, the grade assigned by the instructor replaces the provisional IP grades for all prior portions of the course. If a student fails to enroll in or complete the final course of a sequence in the next quarter in which it is offered, the IP grades will be replaced by the grade of I. Further changes of that grade will be subject to the conditions covering Incomplete grades. IP designations are not included in the computation of grade-point averages. Courses graded IP are identified in the *Schedule of Classes.*

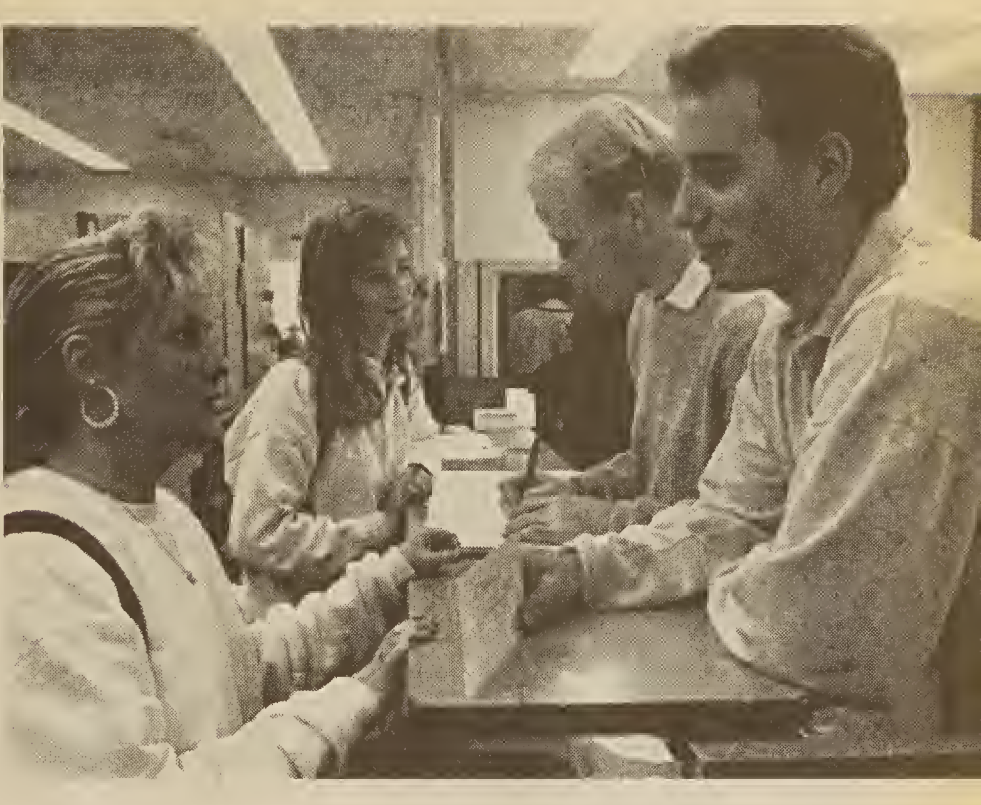
Passed/Not Passed Grades

Passed/not passed grades (P/NP) are not included in the computation of university grade-point averages. Courses graded P, however, are acceptable for unit and appropriate degree credit. P grades will be assigned only for coursework equivalent to a C or better on the letter-grade basis. NP grades will be assigned for work equivalent to a C- or below. No credit is given for courses graded NP.

Undergraduate courses may be offered exclusively on a P/NP basis with the prior approval of the appropriate faculty committees. These courses are identified in the Schedule of Classes. Undergraduate students on academic probation, as well as those in good standing, may take such courses without special approval. Graduate students may take undergraduate courses P/NP with the approval of their graduate adviser, provided the course is offered P/NP.

Undergraduate students may elect the P/NP grading option for courses listed as optional grading in the *Schedule of Classes,* provided they meet the following conditions:

1. They are in good academic standing (i.e., not on academic probation).
2. The course is open to all qualified students on this basis and is so designated in the Schedule of Classes.
3. The course is not required or accepted for the student's major. Courses in the major, whether lower- or upper-division, in or outside of the major department, must be taken for a letter grade. With prior approval of appropriate faculty committees, a department may specify that certain "major" courses may be taken P/NP. Courses for which such approval has been granted are identified in the major department entries in this catalog.
4. They elect this option at the time of registration or thereafter, but not later than the end of the seventh week of classes. Students are responsible for determining whether they are qualified to enroll in courses on a P/NP basis according to the requirements stated here.
5. At the time of graduation, they will have completed at least two-thirds of their units earned in residence at UCSB on a letter-grade basis. There is no limit on the number of courses that may be taken P/NP during a single quarter. The limitation on the number of units taken P/NP does not apply to Creative Studies majors.
6. They have not been restricted or prohibited from the use of the P/NP option due to having earned an excessive number of NP grades. Students with more than 8 units of NP grades in one quarter or with more than 20 units of NP grades in all terms of university enrollment combined may be so restricted. In the case of repeated courses in which the initial grade was NP, the original NP will not be included in this 20-unit total.
7. Students who take courses in their major department in excess of minimum major requirements may elect the P/NP option for those courses.



Satisfactory/Unsatisfactory Grades

Graduate students may take graduate courses on a satisfactory/unsatisfactory (S/U) basis provided the course is so offered and their graduate adviser approves. S grades will be assigned for coursework equivalent to a B or better on the letter-grade basis. U grades will be assigned for work equivalent to a B- or below. In some departments, classes required for the degree must be taken for letter grades. Students electing the S/U grading option should discuss this issue with their graduate adviser.

Withdrawal Grade

For undergraduate students, the W grade will be assigned when a student withdraws from the University or drops a course after the period for change of program established by the Executive Committee of the college or school in which the student is enrolled. The W grade will be assigned for each course affected. Courses in which a W has been entered on the student's record will be disregarded in determining a student's grade-point average and will not be considered as courses attempted in assessing the student's grade-point average for graduation. W grades are not assigned to graduate students.

Grade Changes

All grades except I and IP are final when submitted to the registrar by the instructor in the end-of-term course report, subject to the provisions noted in "Contested Grades" (below). Thereafter, an instructor may report a grade correction only in the case of clerical or procedural error.

An instructor also may change a grade in the quarter following that in which the original grade was received if the basis for the change is found in work previously accomplished in the course as a part of the student's regular participation in class activity. However, such changes must not create inequities to others whose grades remain unaltered. No final grade (except I) may be revised by re-examination or additional coursework, and no letter grade may be changed to or from P/NP. All grades changed to Incomplete must be accompanied by the necessary Incomplete Grade Petition endorsed by the provost or dean of the student's college.

Contested Grades

A student may challenge a grade on grounds that it was based on criteria not directly reflective of coursework. Such criteria include discrimination on political grounds or for reasons of race, religion, sex, sexual orientation, age, or ethnic origin. The initial appeal must be submitted in writing prior to the end of the quarter following the term in which the grade was assigned. Full appeal procedures and review authorities are described in detail in the Appendix.

If the designated authorities determine that a grade reflects unacceptable criteria, as specified earlier, they will: (1) authorize retroactive withdrawal from the course; *or* (2) authorize the change of the contested grade; *or* (3) if it was offered in the College of Creative Studies, change the unit value of the course.

Transcript of Record

A record of each student's academic work at UCSB is prepared and retained permanently by the Office of the Registrar. Students should verify their quarterly grades and immediately inform the Office of the Registrar of any discrepancies.

Transcripts of the official record may be obtained from the Office of the Registrar. Requests for transcripts must be signed by the student and accompanied by $3 per copy. For additional information call 893-3135. Arrangements for mailing transcripts using any mail service other than first class must be made in advance with the Office of the Registrar.

Students with financial obligations to the university will have transcripts withheld until such obligations have been officially cleared or extended. Transcripts of work completed at any UC Extension, another campus of the university, or at another institution must be requested directly from the campus or institution concerned.

Eligibility

Academic Eligibility for Undergraduates

Academic probation. Undergraduate students in the College of Creative Studies, the College of Engineering, and the College of Letters and Science are placed on academic probation if their cumulative grade-point average in the University of California falls below 2.0 (C average) at the end of any quarter. While on academic probation, students are under the supervision of the provost or dean of their college. Students on academic probation will be returned to regular academic status if they raise their cumulative average to 2.0 or above by the end of their second quarter on academic probation.

Academic disqualification. Any of the following conditions make undergraduate students in the College of Creative Studies, the College of Engineering, and the College of Letters and Science subject to academic disqualification from further enrollment at UCSB:

1. At the end of any quarter their grade-point average is less than 1.5 for that quarter.
2. Their grade-point average for any quarter falls below 2.0 while they are on academic probation.
3. After two consecutive quarters on academic probation they have not raised their cumulative UC grade-point average to 2.0 or better.
4. While on reinstatement-probation their quarter grade-point average is below 2.2 and their cumulative grade-point average is below 2.0.

Students who are subject to academic disqualification are not eligible to register again at UCSB until and unless they are reinstated on probation by the provost or dean of their college. Students should refer to the college announcements for further information concerning academic disqualification.

Reinstatement. Undergraduate students subject to academic disqualification may appeal to the provost or dean of their college for reinstatement on probationary status. The provost or dean will decide if a student may be reinstated and may set conditions for reinstatement. Reinstated students may register at UCSB under the conditions set by their provost or dean and will be subject to the provost's or dean's supervision until they have regained regular academic status.

In order to transfer either from one UC campus to another or from one school or college to another on the same campus, students who are on academic probation or subject to academic disqualification must obtain the approval of the provost or dean of the college or school to which transfer is requested. Upon completion of the transfer, the student is subject to the supervision of the provost or dean of that college or school.

Academic Eligibility for Graduate Students

Academic standards for graduate students at UCSB are determined by the Graduate Council and by individual academic departments. Students must maintain a cumulative grade-point average of at least 3.0 (B) to remain in good standing in the Graduate Division at UCSB. Students with lower grade-point averages are subject to dismissal. On the academic department's recommendation, the graduate dean either places such students on academic probation or dismisses them from graduate status.

Graduation

Undergraduate students are responsible for reviewing records carefully to ensure that they are completing all degree requirements. A New Student Profile listing degree requirements and any transfer credit earned is sent automatically to students when they are admitted to UCSB. A graduation check is performed by the Office of the Registrar when an undergraduate submits a Petition for Graduation. As the graduation check is a final review of records, it occurs too late to be of assistance in deciding which courses to take during the last quarter.

Students in the College of Engineering who have completed 130 units should request a Progress Evaluation from the College's Office of Undergraduate Studies. This statement will indicate the student's progress in fulfilling university and college requirements. Students in the College of Letters and Science who have completed 84 or more units may request a Progress Evaluation from the college office. Students who have completed at least 135 units and who have not declared candidacy for graduation may request a Progress Evaluation from the Office of the Registrar. Only one such request will be honored for each student. These statements indicate the student's progress in fulfilling university and college requirements. For assistance in reviewing major requirements, students should consult their major department adviser.

Students in the College of Creative Studies are expected to consult with their assigned advisers on a quarterly basis to monitor progress, both in the major and toward graduation.

Undergraduate students may obtain information on progress and/or degree checks from their college office; graduate students should contact the Graduate Division, 893-4654.

Due to budgetary cuts experienced by the university, it may be necessary to institute a modest charge to students participating in commencement ceremonies.

How to graduate

All candidates for undergraduate degrees must announce their candidacy for graduation by the deadline given in the Schedule of Classes. This is done by filing an Undergraduate Petition for Graduation with the Office of the Registrar in the quarter in which the degree is anticipated. In order to graduate at the end of a given quarter, students must complete all work necessary for the fulfillment of degree requirements (including transfer work and any Incomplete grades) by the last day of the quarter. Students who find that they are not eligible to graduate as planned must file a Withdrawal of Candidacy for that quarter. A new Undergraduate Petition for Graduation must be submitted by the student for the new date of graduation. The student will not be considered a candidate for a degree until such action is taken.

Candidates for master's degrees must file a statement of candidacy form with the Graduate Division before the end of the quarter in which they expect to graduate. Candidates for Ph.D. degrees must file their dissertation with the library on or before the last day of the quarter.

Candidates for graduate degrees in spring or summer quarter who wish to have their names appear in commencement publications must file a Graduate Division Commencement Form with the Graduate Division by May 1.

Commencement ceremonies and diplomas

Although there are four possible dates of graduation each year (December, March, June, and summer), commencement ceremonies are held only once a year, in June. Undergraduate students whose names are on the degree list for one of the quarters in the current academic year (including spring and summer candidates for the degree) and who have completed or plan to complete all degree requirements, are eligible to participate in these ceremonies. Information concerning commencement will be sent to potential candidates during spring quarter. Undergraduate students with questions about commencement ceremonies are asked to phone 893-8289. Graduate students may call 893-2277.

Diplomas are not available for several months after graduation. The address indicated by undergraduate students on the Undergraduate Petition for Graduation is used to mail the diplomas when they become available. Graduate students should complete a Diploma Request form with the Office of the Registrar indicating the appropriate address. Students who need official verification of graduation before the diploma is ready may order transcripts from the Office of the Registrar. The degree earned must be indicated on the transcript request. If all degree requirements have been completed prior to the official date of graduation, and if immediate proof that requirements have been met is needed, undergraduate students may request a letter of verification from the Office of the Registrar; graduate students may request such a letter from the Graduate Division.

Undergraduate honors at graduation. To be eligible for honors at graduation an undergraduate student must have completed at least 76 units *for letter grades* within the University of California, including summer session but excluding UC Extension. If all graduation requirements are met, honors are awarded by each college as approved by the Committee on Undergraduate Scholarship, Honors, and Prizes. Honors are awarded to the top 20% in the following order:

Top 2.5%	Highest Honors
Next 6%	High Honors
Next 11.5%	Honors

In exceptional circumstances, students not meeting these criteria may petition the Committee on Undergraduate Honors, Scholarships, and Prizes for special consideration.

Distinction in the Major is awarded to students who successfully complete a departmental senior honors program.

College Honors are awarded to students in the College of Letters and Science who have completed 135 or more graded units in the University of California with a grade-point average of at least 3.85.

The *Certificate of Academic Excellence* is presented to students who have completed the College of Letters and Science Honors Program.

Student Conduct and Responsibility

Personal conduct

Students registered in the University of California assume an obligation to act in a manner compatible with the university's function as an educational institution. The publication titled *Campus Regulations Applying to Campus Activities, Organizations, and Students,* available from the Office of the Dean of Students, describes policies and regulations concerning these issues.

Allegations of violations of campus or university regulations will be investigated by appropriate officials. The university reserves the right to make the final determination in any case of student discipline. All disciplinary actions are administered by virtue of authority vested in or delegated by the chancellor.

Academic conduct

The core of a university's integrity is its scholastic honesty. Academic dishonesty vitiates the university's educational role and defrauds all who comprise its community. It is expected that students understand and subscribe to the ideal of academic integrity and are willing to bear individual responsibility for their work. Materials submitted to fulfill academic requirements must represent a student's own efforts. Any act of academic dishonesty, such as plagiarism or other forms of cheating, is unacceptable and will be met with disciplinary action.

Student responsibility

Each student is responsible for compliance with the regulations printed in the *General Catalog,* in the college announcements, and in the *Schedule of Classes,* and with official notices published in the campus newspaper or posted on official bulletin boards. Changes of name or address or both must be reported to the Office of the Registrar immediately.

Student work

All material, of whatever nature, submitted by a student in satisfaction of all or any portion of a course requirement is the property of the university and is not subject to any claim on the part of the student who has submitted it. Any material produced by a student independent of any course requirement must be removed from university premises no later than the last day of the quarter in which the work was produced. The university assumes no obligation to hold or safeguard such material, and the risk of possible destruction, loss, or other disposition is assumed solely by the student.

Authority of instructors

Each instructor has the authority to determine whether a student is sufficiently prepared to enter upon or to continue in the study of that instructor's subject. However, an instructor may not exclude a student from a course on political grounds, or for reasons of race, religion, sex, sexual orientation, age, ethnic origin, handicap, or for other arbitrary or personal reasons. A student who believes that such criteria were used may challenge the instructor's decision by means of the grievance procedures set forth in the Appendix.

Undergraduate Education at UCSB

Admission

The Office of Admissions and Relations with Schools assists students in preparing for, applying to, and gaining admission to the University of California, Santa Barbara. Prospective students and their parents are invited to visit the campus to observe first-hand the opportunities available to them. Tour programs—which include a campus video, information about admissions, housing, and financial aid, and a walking tour of campus led by a student guide—are offered most weekdays and occasional Saturdays. Students may call (805) 893-8175 for recorded tour information, or may contact the Office of Relations with Schools at (805) 893-2485 for application information.

The University of California, Santa Barbara has taken positive steps to increase the representation of ethnic minorities, disadvantaged and disabled persons, and individuals of all ages in its academic programs. The university does not discriminate on the basis of race, color, national origin, religion, sex, age, sexual orientation, or disability in admission to or participation in its programs, activities, or services.

Applying for Admission to UCSB

The first step in applying for admission to UCSB is to submit a University of California undergraduate application. The *Undergraduate Application* is available from California high schools and community colleges and from University of California campuses. The application and nonrefundable application fee should be sent to University of California, Undergraduate Application Processing Service, P.O. Box 23460, Oakland, CA 94623-0460; a pre-addressed envelope is included in the *Undergraduate Application.*

When to apply for admission. To ensure admission consideration, students should file their completed applications during the appropriate filing periods.

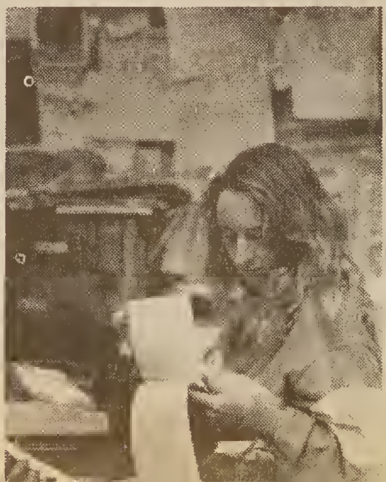
Quarter	*Filing Periods*
Fall 1994	**November 1-30, 1993**
Winter 1995	**July 1-31, 1994**
Spring 1995	**October 1-31, 1994**

UCSB will accept applications after the filing periods have ended only if the number of applications received to date and the number of enrollment spaces allow. Also, UCSB may be closed to applications for the winter and spring quarters. Students should contact the Office of Relations with Schools at (805) 893-2485 to inquire about the winter and spring quarter filing status.

Application restrictions. UCSB accepts applications from international students for fall quarter only.

The following majors accept applications for fall quarter only:

College of Letters and Science
  Computer Science (B.A.)
College of Engineering
  Chemical Engineering
  Computer Science (B.S.)
  Electrical Engineering
  Mechanical Engineering
  Nuclear Engineering



University of California Admission Requirements

All campuses of the University of California have the same minimum admission requirements. These requirements are used to identify the top 12.5 percent of California high school graduates and are based on two principles: (1) that the level of performance in previous academic work is the best predictor of university success, and (2) that the study of certain subjects provides sound preparation for university work.

Students who fulfill these minimum admission requirements are UC eligible. Most campuses, including UCSB, receive applications from more UC-eligible applicants than can be accommodated. When a campus cannot admit all UC-eligible applicants, it admits students using selection criteria that are more rigorous than the minimum admission requirements.

The university's minimum admission requirements are presented below. UCSB's selection criteria are described in the section entitled "UCSB Selection Criteria." For further information about the university's admission requirements, students should refer to the Undergraduate Application and consult their high school or community college counselor.

Freshman Admission Requirements for California Residents

Students are considered freshman applicants if they have not enrolled in a regular session at any college-level institution since graduating from high school. Enrollment in college summer session immediately following high school graduation does not affect the status of freshman applicants. Freshman applicants must satisfy the subject, scholarship, and examination requirements described below. These are the university's minimum admission requirements; satisfying them does not ensure admission to UCSB.

Subject Requirement

To satisfy the subject requirement, students must successfully complete a specific pattern of high school courses, known as the "A-F" requirements. Courses completed in California high schools satisfy the A-F requirements only if they appear on a course list certified by the high school principal. To fulfill the subject requirement, students must complete 15 units of coursework, seven of which must be taken in the student's last two years of high school. (A unit equals one academic year, or two semesters, of study.) Students are encouraged to exceed the A-F requirements whenever possible.

A—United States History: 1 year required

One year of United States history, or one-half year of United States history and one-half year of civics or American government. (Two years of history/social science required beginning with applicants for fall 1994.)

B—English: 4 years required

Four years of college-preparatory English composition and/or literature. No more than two semesters will be accepted from the ninth grade.

C—Mathematics: 3 years required, 4 recommended

Three years of mathematics, including elementary algebra, geometry, and second-year (advanced) algebra.

D—Laboratory Science: 1 year required, 3 recommended

One year of laboratory science, taken in the tenth, eleventh, or twelfth grade. (Two years required beginning with applicants for fall 1994.)

E—Foreign Language: 2 years required, 3 recommended

Two years of one foreign language.

F—College-Preparatory Elective Courses: 4 years required

Four years of electives. (Two years required beginning with applicants for fall 1994.)

Scholarship Requirement

The scholarship requirement defines the grade-point average a student must earn in the A-F requirements. If the grade-point average is 3.30 or above, the student has met the scholarship requirement. If the grade-point average is below 3.30 but is 2.82 or above, the student must achieve an aptitude test score as specified in the University of California Eligibility Index on this page at right.

UNIVERSITY OF CALIFORNIA ELIGIBILITY INDEX
(California residents only)

A-F GPA	ACT Composite	SAT Total
2.82	36	1590
2.83	36	1570
2.84	35	1540
2.85	35	1520
2.86	35	1500
2.87	34	1470
2.88	34	1450
2.89	33	1430
2.90	33	1400
2.91	33	1380
2.92	32	1360
2.93	31	1330
2.94	31	1310
2.95	31	1290
2.96	30	1260
2.97	30	1240
2.98	29	1220
2.99	28	1190
3.00	28	1170
3.01	27	1150
3.02	27	1120
3.03	26	1100
3.04	26	1080
3.05	25	1050
3.06	25	1030
3.07	24	1010
3.08	23	980
3.09	23	960
3.10	22	940
3.11	22	910
3.12	21	890
3.13	21	870
3.14	20	840
3.15	20	820
3.16	19	800
3.17	19	770
3.18	18	750
3.19	18	730
3.20	17	700
3.21	17	680
3.22	16	660
3.23	16	630
3.24	15	610
3.25	15	590
3.26	14	560
3.27	14	540
3.28	13	520
3.29	12	490

Examination Requirement

All freshman applicants must submit scores from the following tests.

1. One aptitude test, either:
   a. The Scholastic Aptitude Test (SAT), with verbal and mathematics scores from the same sitting, or
   b. The American College Test (ACT), composite score.
2. Three College Board Achievement Tests:
   a. English composition,
   b. Mathematics (level 1, 2 or 2c) and
   c. English literature, foreign language, science, or social science.

Students should take these tests in their junior year or by November of their senior year. Test dates and further information are available from high school counselors or the following sources:

For the SAT and College Board Achievement Tests:

The College Board
P.O. Box 6200
Princeton, NJ 08541-6200

For the ACT:

American College Testing Program
Registration Unit
P.O. Box 414
Iowa City, IA 52243-0414

Admission by Examination Alone

Freshman applicants who do not satisfy the subject and scholarship requirements may be considered for admission by examination alone. Students must score a minimum of 1300 on the SAT or 31 on the ACT, and 1650 on the three College Board Achievement Tests (with a minimum score of 500 on each).

Freshman Admission Requirements for Nonresidents

A legal definition of California residency is included in the Appendix.

Nonresidents must satisfy the admission requirements described below. These are the university's minimum admission requirements; satisfying them does not ensure admission to UCSB.

1. Completion of the A-F requirements with a minimum grade-point average of 3.40 and submission of required test scores (refer to the "Subject Requirement" and "Examination Requirement" sections above), or

2. A minimum score of 1300 on the SAT or 31 on the ACT, and 1730 on the three College Board Achievement Tests (with a minimum score of 500 on each).

Advanced-Standing Admission Requirements for California Residents

Students are considered advanced-standing applicants if they graduated from high school and enrolled in a regular session of any college-level institution. Such students cannot disregard their college records and apply for admission as freshman applicants.

Advanced-standing admission requirements differ depending upon the applicant's high school record (i.e., whether or not the applicant was UC eligible upon high school graduation). Applicants should review their high school records with attention to the university's freshman admission requirements to determine which of the following advanced standing options they must satisfy. The options described below are the university's minimum admission requirements; satisfying them does not ensure admission to UCSB.

1. Students who met the university's freshman admission requirements upon graduation from high school (the subject, scholarship, and examination requirements) are eligible to transfer if they have a minimum grade-point average of 2.00 in their UC-transferable college coursework.

2. Students who met the freshman scholarship requirement but did not meet the freshman subject requirement are eligible to transfer if they:

a. complete, with a minimum grade of C, college courses in the required high school subjects that they lack, and

b. attain a minimum grade-point average of 2.00 in their UC-transferable college coursework.

Students who complete less than 12 quarter or semester units of UC-transferable college coursework must also satisfy the examination requirement.

3. Students who did not meet the freshman scholarship requirement, or did not meet the freshman subject requirement and did not complete all the required A-F subjects, must:

a. complete 84 quarter-units or 56 semester-units of UC-transferable college credit with a minimum grade-point average of 2.40, and must satisfy either (b) or (c) below:

b. complete, with a minimum grade of C, college coursework in the required high school subjects that they lack (the university will waive up to 2 units of the required high school subjects except in mathematics and English), or

c. complete, with a minimum grade of C, one college course in mathematics, one in English, and one in either United States history, laboratory science, or foreign language. All courses, with the exception of the mathematics course, must be UC-transferable. The mathematics course must assume a proficiency level equivalent to three years of high school mathematics (i.e., elementary algebra, geometry, and advanced algebra). The course may be trigonometry or a more advanced course in mathematics or statistics for which advanced algebra is a prerequisite.

For further information about the university's advanced-standing admission requirements, students should refer to the Undergrad uate Application and should consult their community college counselors.

Advanced-Standing Admission Requirements for Nonresidents

A legal definition of California residency is included in the Appendix.

The advanced-standing admission requirements for nonresidents are identical to those for California residents except that nonresidents must attain a minimum grade-point average of 2.80 in their UC-transferable college coursework.

Admission Requirements for International Students

International students are governed by the same undergraduate admission regulations that apply to U.S. students. In addition, nonimmigrant applicants whose native language is not English must demonstrate written and oral competence in English by scoring 500 or above on the Test of English as a Foreign Language (TOEFL). For information on testing, students should contact: TOEFL, P.O. Box 6151, Princeton, NJ 08541-6151.

UCSB Selection Criteria

UCSB's selection criteria comply with the University of California's admissions policy. The policy is guided by the university's commitment to serve the people of California and the needs of the state, within the framework of the California Master Plan for Higher Education. The policy states:

> *Mindful of its mission as a public institution, the University of California has an historic commitment to provide a place within the university for all eligible applicants who are residents of California, and to achieve, on each campus, a student body that both meets the university's high academic standards and reflects the cultural, racial, geographic, economic, and social diversity of California itself.*

Guidelines for implementation of the above policy (refer to the university publication, *Introducing the University,* for guidelines) describe the selection criteria that each campus must use to admit students from their UC-eligible applicant pools. The guidelines require that UCSB admit no more than 60 percent of freshmen using strictly academic criteria, and no less than 40 percent of freshmen using academic in conjunction with supplemental criteria. UCSB's academic and supplemental criteria are described below.

Freshman Criteria

College of Letters and Science

All UC-eligible applicants are reviewed based on grades, performance on standardized aptitude and achievement tests, completion of coursework beyond the university's A-F requirements, and completion of advanced placement and honors courses in grades 10, 11, and 12. Applicants with the strongest qualifications are admitted. The level of performance needed to gain admission varies from year to year depending on the size and academic quality of the applicant pool and the number of enrollment spaces.

UCSB relies on supplemental criteria to distinguish among applicants who present similar qualifications as measured by strictly academic criteria. Supplemental criteria include leadership experience, outstanding accomplishments, perseverance through extreme hardship, and participation in special activities that enhance academic and personal growth and demonstrate superior initiative and motivation.

UCSB also relies on supplemental criteria to identify for admission consideration applicants whose special talents or nontraditional status increase the strength and diversity of the student body. In addition, UCSB uses supplemental criteria to identify applicants whose achievement of their full academic potential has been restricted by disability or life experiences that reflect cultural or socioeconomic disadvantage.

College of Engineering

All UC-eligible applicants are reviewed based on grades, performance on standardized aptitude and achievement tests, completion of coursework beyond the university's A-F requirements, and completion of advanced placement and honors courses in grades 10, 11, and 12. Special emphasis is given to preparation and test results in science and mathematics. Applicants with the strongest qualifications are admitted. The level of performance needed to gain admission varies from year to year and by major depending on the size and academic quality of the applicant pool and the number of enrollment spaces.

UCSB relies on supplemental criteria to distinguish among applicants who present similar qualifications as measured by strictly academic criteria. Supplemental criteria include outstanding accomplishments which enhance academic growth, assist in the achievement of academic goals, and demonstrate superior initiative and motivation. UCSB also relies on supplemental criteria to identify for admission consideration applicants whose nontraditional status increases the strength and diversity of the student body, as well as applicants whose achievement of their full academic potential has been restricted by life experiences that reflect cultural or socioeconomic disadvantage. Applicants not admitted to Engineering are considered for admission to Letters and Science.

College of Creative Studies

UC-eligible applicants gain admission to the College of Creative Studies based on completion of a separate (additional) application to Creative Studies and on faculty review of work submitted in evidence of talent. Work submitted in evidence of talent includes: for art majors, slides or photographs of artwork; for literature majors, writing samples (for example, fiction or poetry); for music majors, scores and recordings of musical compositions or critical papers; for mathematics and science majors, examples of independent research or other evidence of an exceptional capacity for intellectual discovery.

In addition to work in evidence of talent, applicants must submit the following documents directly to the college:

1. A College of Creative Studies data form
2. A personal letter of intent addressed to the provost in which the student states his or her academic interests, qualifications, and reasons for pursuing study in Creative Studies
3. High school and any college transcripts
4. Letters of recommendation

The Creative Studies data form and information on the college's application procedures are included in a brochure that students receive from the college after they apply to UCSB.

Applicants not admitted to Creative Studies are considered for admission to Letters and Science.

Advanced-Standing Criteria

College of Letters and Science

All UC-eligible transfer applicants are reviewed based on grades earned in UC transferable coursework, class level, and type of institution from which they are transferring. Applicants with the strongest academic qualifications are admitted, with priority admission consideration given to junior-level California community college applicants. The level of performance needed to gain admission varies from year to year depending on the size and academic quality of the applicant pool and the number of enrollment spaces. UCSB also relies on supplemental criteria to identify for admission consideration advanced-standing applicants whose special talents or nontraditional status increase the strength and diversity of the student body. In addition, UCSB uses supplemental criteria to identify advanced-

standing applicants whose achievement of their full academic potential has been restricted by disability or life experiences that reflect cultural or socioeconomic disadvantage.

College of Engineering

All UC-eligible transfer applicants are reviewed based on grades earned in UC transferable coursework, amount of Engineering preparatory coursework completed, and grades earned in preparatory coursework. Successful completion of at least one course in English composition is required for admission, and completion of two to three transferable general education courses is strongly recommended. Applicants with the strongest academic qualifications are admitted. The level of performance needed to gain admission varies from year to year and by major depending on the size and academic quality of the applicant pool and the number of enrollment spaces. UCSB also relies on supplemental criteria to identify for admission consideration advanced-standing applicants whose nontraditional status increases the strength and diversity of the student body as well as applicants whose achievement of their full academic potential has been restricted by life experiences that reflect cultural or socioeconomic disadvantage.

College of Creative Studies

Selection criteria and application procedures are the same as those noted in the "Freshman Criteria, College of Creative Studies" section.

Limited Status

Students with a bachelor's degree who would like to complete additional upper-division coursework to prepare for graduate study and professional programs may qualify for admission to limited status. Students must file the *Undergraduate Application* during the appropriate filing period. Applications are subject to review and must be approved by both the director of admissions and the dean or provost of the college in which the student plans to enroll. Admission is selective and competitive; if enrollment limitations allow, admission will be granted to students whose academic records demonstrate their potential to succeed in their proposed area of study.

Admission by Exception

UCSB considers for admission a limited number of students who have not met the university's admission requirements.

Intercampus Transfer

Students may apply to transfer from one UC campus to another by submitting the *Undergraduate Application* to the campus of their choice. Applications are available from the Office of Relations with Schools. If enrollment limitations allow, admission will be granted to students who are in good standing.

Credit from Other Institutions

UCSB accepts transferable coursework completed with satisfactory grades at accredited institutions, subject to the following limitations:

Community College Limitations

Students in the College of Letters and Science may earn unit credit for UC-transferable community college coursework until they complete 105 quarter-units of university-approved work (either at a community college, UC campus, or other college or university). Students will receive subject credit as appropriate, but no unit credit, for UC-transferable community college coursework completed beyond the 105 quarter-unit mark. Students in the College of Creative Studies and the College of Engineering may earn unit credit for up to 105 quarter-units (70 semester-units) of UC-transferable community college coursework.

Study Abroad Limitations

Study abroad programs sponsored by institutions and organizations other than the University of California's Education Abroad Program (EAP) are of varying quality. In many cases UCSB will not grant credit for completed coursework, even to students who have been issued an official transcript. Students should contact UCSB's Admissions Office, as well as their department and college advisers, prior to undertaking study abroad to determine whether or not credit will be granted and, if so, how it will be applied.

Requirements

University Bachelor's Degree Requirements

To be eligible for a bachelor's degree from the University of California, Santa Barbara, students must meet the general university requirements, described below, and the appropriate general education and major requirements in their college, described in subsequent sections of this catalog and in the publications of the colleges. They must also comply with university regulations governing registration, scholarship, examinations, and student conduct. (Refer to the chapter "Academic Policies and Procedures" in this catalog.)

University bachelor's degree requirements include the Subject A-English Composition requirement, the American History and Institutions requirement, the unit requirement, the academic residence requirement, the grade-point average requirement, and major requirements.

Subject A—English Composition Requirement

All students entering the University of California must demonstrate an ability to write effectively by fulfilling what is known as the Subject A requirement. Satisfaction of the Subject A-English Composition requirement is determined by the Office of Admissions at the time a student is admitted to the university.

The Subject A requirement may be met in one of four ways prior to admission:

1. by achieving a score of 600 or higher on the College Board Achievement Test in English Composition;
2. by achieving a grade of 3 or higher on the College Board Advanced Placement Examination in English Composition and Literature or English Language and Composition;
3. by passing the University of California systemwide Subject A Examination while in high school;
4. by entering the university with transcripts showing the completion of an acceptable 3-semester-unit or 4-quarter-unit course in English composition equivalent to English 2 (formerly 2A) at UCSB, with a grade of C or better.

Students who have not taken the UC systemwide Subject A Examination and who have not met the Subject A requirement in one of the other ways listed above will be required to take the examination during their first quarter at UCSB (see the *Schedule of Classes* for examination time and location). An appropriate score on the examination will meet the Subject A requirement. Only one UC examination may be taken— either the systemwide Subject A Examination while in high school or the examination given at UCSB in the fall term; and neither may be repeated.

Students who enter UCSB without having fulfilled the university's Subject A requirement and (if they have not previously taken the systemwide Subject A Examination) who do not achieve an appropriate score on the examination given on campus must enroll in English 1 or equivalent within their first year at UCSB. A grade of C or higher in English 1 or equivalent is needed to satisfy the Subject A requirement. Students who earn a grade of C- or lower in English 1 or equivalent will be required to repeat the course in successive quarters until the requirement is satisfied.

Once students matriculate at UCSB, they may not fulfill the requirement by enrolling at another institution. Transfer courses equivalent to English 2 will not be accepted for unit or subject credit unless the Subject A requirement has been met. Students will only be allowed to meet the Area A requirement of the General Education Requirements with courses taken after satisfying the Subject A requirement. This requirement must be completed by the end of the fourth quarter of matriculation.

American History and Institutions Requirement

The American History and Institutions requirement is based on the principle that American students enrolled at an American university should have some knowledge of the history and government of their country. This requirement may be satisfied by completing one course from the following list. In this context, "course" refers to a one-quarter offering such as History 17A or Religious Studies 151B.

Anthropology 131
Art History 161A-B-F-G
Asian American Studies 1, 2, 3, 4
Black Studies 1, 6, 60A-B, 101, 103, 110, 121, 124, 126, 137E, 169A-B
Chicano Studies 1A-B-C, 105, 144, 168A-B, 174, 188A-B-C
Dramatic Art 155A-B
Economics 113A-B, 119
English 130A-B-C, 133AA-ZZ; 134AA-ZZ, 135, 136A-B-C, 137A-B, 138A-B-C, 139, 191
German 147
History 9A-B, 17A-B-C, 70A-B, 72, 74, 78, 102, 105, 159A-B-E, 160A-B, 161, 162A-B, 164A-C-I, 165, 166A-B-LA-LB, 167A-B-C-D, 168A-B, 169A-B-M, 170, 171A-B, 172A-B, 173A-B-S-T, 174A-B-C-D, 175A-B, 176A-B, 177, 178A-B-M, 179, 179D
Law and Society 100
Military Science 1A-B-C, 7, 8, 9, 11.
Note: Military Science courses are 2 units each. Two acceptable Military Science courses will fulfill the American History and Institutions requirement.
Philosophy 119
Political Science 12, 100, 113, 115, 127, 151, 152, 153, 155, 157, 158, 161, 162, 165, 166, 167, 168, 174, 176, 180, 185
Religious Studies 7, 14, 114B-C, 151A-B, 152, 153, 154A
Sociology 137, 137E, 140, 144, 155A, 157

Courses used to fulfill the American History and Institutions requirement may also be applied to General Education or major requirements, or both where appropriate. Equivalent courses taken at other accredited colleges or universities, in UC Extension, or in summer session are acceptable as determined by the Office of Admissions upon receipt of the appropriate transcripts.

The American History and Institutions requirement may be satisfied in two additional ways: (1) by achieving a score of 3 or higher on the College Board Advanced Placement Examination in American History or American Government and Politics; or (2) by passing a noncredit examination in American history or American institutions, offered in the Department of History during the first week of each quarter. Consult the department for further information.

International students on a nonimmigrant visa may petition for a waiver of this requirement through the Dean of International Students and Scholars.

Unit Requirement

A minimum of 180 quarter-units is required for graduation. (Some students in the College of Letters and Science will need at least 184 units to graduate; see General Education Requirements, Area B—Foreign Language for details.) These units must be distributed according to the requirements set forth by the faculty of the various colleges, as explained in the following sections of this catalog and in the publications of the colleges.

The acceptability of transfer courses for unit credit is determined by the Office of Admissions. The applicability of such courses toward specific requirements is determined by the college provost or deans and/or department chairs.

Academic Residence Requirement

Candidates for a bachelor's degree must be registered in the university for at least three terms to fulfill the university's academic residence requirement. A term is a regular quarter in which a student enrolls in six or more units of resident (on-campus) courses. Each UC summer session in which at least 2 units are completed is the equivalent of half a term's residence.

At least 35 of the final 45 units must be taken in the college or school in which the degree is to be awarded. No more than 18 of the final 35 units may be completed in summer session courses at UCSB. Courses taken in UC Extension do not satisfy residency requirements.

College of Letters and Science residence requirement. Students in the College of Letters and Science must complete at least 27 upper-division units, of which at least 18 must be in the upper-division major, while in residence in the college. In the case of double majors, at least 18 upper-division units must be completed in each major while in residence in the College of Letters and Science. Courses taken in the university's Education Abroad Program do not apply to the residence requirement.

Education Abroad Program participants. With one modification, students who participate in the University of California Education Abroad program are responsible for all academic residence requirements as explained above. For students who participate in EAP as seniors, the rule requiring 35 of the final 45 units in the college or school in which the degree is to be awarded is modified to 35 of the final 90 units. Students must secure prior approval to use this modification and may graduate without returning to UCSB provided that they have satisfied all degree requirements by the end of their year abroad. Those who have any remaining degree requirements must return to UCSB to complete a minimum of 12 units on campus while fulfilling final degree requirements.

Grade-Point Average Requirement

At the time of graduation, students in the College of Engineering and the College of Letters and Science must have at least a 2.0 (C) grade-point average in: (1) all courses undertaken at the University of California (UC) except those graded passed/not passed; (2) all UC courses required and acceptable for the student's overall major program, both lower- and upper-division; and (3) all UC courses required and acceptable for the student's upper-division major program.

Courses undertaken at any of the UC campuses, with the exception of UC Extension courses, are included in the computation of the grade-point average.

Courses appropriate for satisfying major requirements must be used in the computation of the grade-point average even if they are in excess of the minimum requirements of the major program. Courses graded Incomplete, except those taken on a passed/not passed basis, will be included as F grades in final computations. Certain courses designated as remedial are offered for workload credit only and do not figure in calculation of the grade-point average.

Students in the College of Creative Studies must, at the time of graduation, have a grade-point average of at least 2.0 (C) in all UC courses that have been undertaken for letter grades.

Major Requirements

To be eligible for graduation, all undergraduates must complete the requirements for a departmental or interdepartmental major in their college with the required grade-point average. As space permits, students may elect any approved major program for which they have met the stated prerequisites.

Major departments and/or committees may require auditions, placement examinations, proposals, specified courses, and/or grade-point averages to determine whether students are qualified for specific courses or for entrance into or continuation in a major.

Students who fail to attain a grade-point average of at least 2.0 in work in their major may, at the option of the major department or committee, be denied the privilege of continuing in that major.

Students in the College of Engineering and the College of Letters and Science normally must complete the major requirements in effect at the time they declare their major, though they may petition to follow a subsequent set of requirements.

Changes in major requirements that increase the number or distribution of courses required normally will not be applied to students continuing in such majors.

Graduate Education at UCSB

Graduate Division, Cheadle Hall 3117;
Telephone (805) 893-2277
Academic Affairs, 893-2559;
Admissions, 893-2278 or 893-4656;
Affirmative Action, 893-3803;
Fellowships and Student Support, 893-2710
Dean: Charles N. Li
Associate Dean: Sarah Fenstermaker

Graduate students at UC Santa Barbara are an essential part of the university's world-famous research teams. They work with faculty in the search for new knowledge from the time a project is defined, through the laboratory or library inquiry that illuminates the problem, to dissemination of findings in scholarly journals, professional conferences, and classrooms. Graduate degrees at UC Santa Barbara are research degrees, certifying that students are trained in the techniques of independent inquiry in their fields.

UC Santa Barbara offers graduate programs leading to the degrees of Doctor of Philosophy, Doctor of Musical Arts, Master of Arts, Master of Education, Master of Fine Arts, Master of Science, and Master of Music. In addition, the Graduate School of Education offers preparation for teaching and specialist credentials. A certificate of completion is offered in school psychology by the Graduate School of Education, and in electrical engineering by the College of Engineering. A complete list of degrees and certificates offered appears in the first chapter of this catalog, "University of California, Santa Barbara."

The Graduate Division

Policy for graduate education is set by the Graduate Council (an Academic Senate committee) and carried out by staff in the Graduate Division under the supervision of the graduate dean.

The Graduate Division has three sections: Admissions, Graduate Academic Services, and Financial Support. Admissions handles recruitment and applications for admission. The Enrolled Student Services unit monitors the progress of students toward their degrees, enforces academic standards, and processes student petitions. The Financial Support section administers fellowships and loan programs, maintains an extramural funding database, and certifies student status for campus employment. Affirmative Action deals with the recruitment and retention of graduate students from targeted ethnic minority backgrounds and of women in fields where they are traditionally underrepresented.

The Graduate Division also sponsors occasional special programs for graduate students, such as dissertation support groups, research colloquia, and workshops on such topics as grant proposals and academic career planning. The division encourages the use of its records and facilities for research on graduate education.

Application and Admission

The University of California offers admission to those applicants who appear to have the highest potential for graduate study and who, with the benefit of graduate education, are most likely to contribute substantially to their academic or professional fields through teaching, research or professional practice.

Because the professions need a diverse membership and because the educational experience is enhanced by a diverse student body, the University views as a high priority the enrollment of men and women from different backgrounds and demographic groups.

Requirements and Procedure. To be considered for admission to the Santa Barbara campus of the University of California, you must have received a bachelor's degree or its equivalent from an accredited university prior to enrollment in the quarter for which you are seeking admission.

In order to apply to the University of California at Santa Barbara, you must forward to your intended academic department the following:

1) completed application forms

2) a statement of purpose (two copies)

3) two copies of official transcripts from all institutions attended since secondary school (plus two copies of official or notarized translations if transcripts are not written in English)

4) three letters of recommendation from professors or others familiar with your academic work

5) Graduate Record Examination General scores (taken within five years; some departments also require a score from the appropriate subject exam; UCSB's GRE Institutional Code is No. 4835), and

6) a $40 non-refundable fee. An application fee paid to another University of California campus is not valid for application to UC Santa Barbara.

International students may also be required to submit a TOEFL score; see below. Also, some programs have additional admission criteria that applicants must meet; details of these are available from departments. After receiving all the materials, the faculty in your intended program then review the applications and recommend to the Graduate Dean that you be admitted or denied.

Note: Individuals may apply to only one program at a time.

Admission decisions are based on the quality of your academic degrees and record, as presented in the application and supporting documents, as well as on preparation in the proposed field of study, work experience (if relevant), and the appropriateness of your goals and research interests to those of the program. As a consequence, many well-qualified applicants cannot be accommodated.

Furthermore, admission of a student to a graduate program does not constitute a commitment on the part of the university to accept the applicant as a candidate for a degree or to recommend the applicant for a credential or a degree.

Deadlines. Specific departmental application deadlines vary; please consult the graduate application for dates.

The deadline for fellowship competition is January 15, for all departments and programs, with the exception of the counseling/clinical/school psychology deadline of January 2. The intended department must receive a completed application *and all supporting materials* by this date in order for the applicant to be considered for fellowship support.

Admission of International Students

The Office of International Students and Scholars (Building 434, telephone 805-893-2929) provides information and assistance to international students.

Applying to UCSB. Nonimmigrant students are governed by the same admission regulations as students from the United States. In addition, every entering nonimmigrant student whose native language is not English must demonstrate competence in English by taking the Test of English as a Foreign Language (TOEFL). Exceptions are made for nonimmigrant students who have received an undergraduate or graduate degree from an accredited university in the United States. A minimum TOEFL score of 550 is required for graduate admission, however some departments have set a higher minimum.

Students must make arrangements to take the TOEFL directly with the Educational Testing Service at P.O. Box 6151, Princeton, NJ 08541-6151.

UCSB's TOEFL institutional code is No. 4835.

English Language Placement Examination. All graduate students, whose first language is not English must meet proficiency requirements in spoken and written English before they will be awarded a degree at UCSB. These students are required to take the written and oral English Language Placement Examination (ELPE) at the beginning of the first quarter in which they register at UCSB. Students who have been exempted from the TOEFL requirement will still be required to take the ELPE. Students must satisfy proficiency requirements in English before graduating, either through ESL classes or by other means.

All prospective international TAs are required to take the TA Language Evaluation in order to be certified for sole classroom teaching responsibility. Teaching assistant language evaluations are monitored by the Graduate Division.

Transfer of Credit

Upper-division and graduate courses may be transferred to UCSB if the student was in a graduate program when the courses were completed. With approval from the major department and the Graduate Division, up to 8 quarter-units of credit for courses completed with a grade of B or better at an accredited college other than another branch of the University of California may be transferred as upper-division credit toward a graduate degree. Up to 12 quarter-units may be transferred from another UC campus. Such transferred units will be treated as Passed/Not Passed and will not be counted in the grade-point average.

No credit will be allowed for any course taken as an undergraduate, in limited status, or as a graduate in non-degree status, nor will credit toward an advanced degree be given for courses completed in a teaching credential program before being admitted for study toward a degree. Units are not transferable if they have already been counted for a degree awarded by another institution. No courses taken in UCSB Summer Sessions will apply toward a graduate degree or teaching credential unless admission to graduate standing at UCSB was effective in the summer or in a previous quarter.

After students have been in graduate standing at UCSB for at least one quarter, they may petition to transfer credit under the limitations described above. Petitions are available from the Graduate Division and from academic departments.

Education Abroad Program

As part of a graduate program at UCSB, students may study abroad through UC's Education Abroad Program (EAP) in one of 100 host institutions in 32 countries. Students who have completed at least one full year of graduate study and who have support of their academic department and graduate dean may apply. A list of EAP host universities and more information appears in the section titled "Education Abroad Program" in the "Additional Academic Programs" chapter of this catalog.

Intercampus Exchange Program for Graduate Students

Enrolled graduate students at UCSB may study at other UC campuses. By applying to the Intercampus Exchange Program for Graduate Students, students may enroll in courses not offered at UCSB, study under the guidance of a specialist in residence at another UC campus, or gain continuing access to library holdings or facilities not available at UCSB. Consult the UCSB Graduate Division for further details.

Nondegree Status

In exceptional circumstances, applicants who do not wish to study for a degree or a teaching credential may be admitted to graduate status on a nondegree basis. The admission requirements and procedures are the same as those for prospective candidates for degrees, with the exception that most departments do not require the Graduate Record Examination. The applicant must specify the major, and must justify in the statement of purpose that the plan of study has a definite scholarly or professional goal. A nondegree student is accepted for a maximum of one academic year. Students in nondegree status are not eligible for fellowships, nor are their courses ordinarily accepted for credit toward an advanced degree at UCSB should they decide later to apply for admission into a master's or doctoral program.

Degrees, Emphases, and Specializations

A **degree** is awarded upon completion of a specified program of study in a major field. Degree titles are posted on transcripts and diplomas. UCSB confers seven different graduate degrees:

Doctor of Philosophy
Doctor of Musical Arts
Master of Arts
Master of Education
Master of Fine Arts
Master of Science
Master of Music

An **emphasis** is a formally approved sub-component of a degree program, such as an emphasis in business economics within an economics master's degree program. An emphasis is noted on the transcript but does not appear on the diploma.

A **specialization** indicates a department's strength in a particular area, for example, science applications within a mathematics degree program. Departments can designate areas of specialization based on a number of faculty working in one area or on a cluster of related courses. Specializations do not appear on transcripts or diplomas.

The Master's Degree

Following are the Graduate Division's minimum requirements for the master's degree. Individual academic departments may impose additional requirements; students should also consult the department for specific unit requirements, which may be in excess of the minimum.

Academic residence. Students in master's degree programs must spend a minimum of three quarters in full-time residence at UCSB. At least one quarter must be a regular session (fall, winter, or spring quarter) during which time the student is engaged primarily in courses in the major, exclusive of thesis work. Two summer sessions of full-time work are equivalent to one quarter of residence.

Program. The study program of every student seeking a master's degree must be approved by the student's department. Departments may offer one or both of the following options. Plan 1 requires the completion of 30 units, including no fewer than 12 graduate units, and the submission of an acceptable thesis. Plan 2 requires 36 units, including no fewer than 18 graduate units, plus successful completion of comprehensive examinations.

Standards of scholarship. Only upper-division and graduate courses in which a student earns grades of A, B, C, or S may be counted in satisfaction of the unit requirements for a master's degree. In the case of courses specifically required for a program, a grade of A or B is required. Independent undergraduate studies (198/199 courses) will not apply to the degree. Students must maintain a cumulative grade-point average of at least 3.0 (B) to remain in good standing in the Graduate Division at UCSB. Students with lower grade-point averages are subject to dismissal. On the academic department's recommendation, the graduate dean either places such students on academic probation or dismisses them from graduate status.

Degree Deadline. Master's degree students are expected to complete their degree requirements in no more than four years. Students who exceed the deadline must request extensions from the Graduate Council.

Changes in degree requirements. As research or new knowledge appears, requirements may change. Graduate students should be prepared to conform to any changes the department may require.

Candidate in Philosophy

In a few departments students may petition for award of the Candidate in Philosophy (C.Phil) degree at the time they advance to candidacy for the Ph.D. This degree certifies that a student has completed all requirements except the dissertation for a Ph.D. The C.Phil is awarded only to Ph.D. candidates in certain departments on recommendation of departmental faculty. No applicant will be admitted with a final degree objective of C.Phil.

The Doctor of Philosophy Degree

Following are the Graduate Division's minimum requirements for the Doctor of Philosophy degree. Individual academic departments may impose additional requirements; students should consult the department for specific requirements that may be in excess of the minimum. If a student is admitted to a doctoral program with deficiencies in background or training, these deficiencies must be removed before advancement to candidacy, usually during the first year of residence.

Academic residence. Students in doctoral programs must enroll for at least six regular academic quarters (not summer sessions) on the UCSB campus pursuing a program of full-time study and research. Three consecutive quarters of this residence must be completed in regular session before advancement to candidacy.

Program. The doctorate is a research degree, granted on the recommendation of the student's doctoral committee. Although the Ph.D. is not primarily a unit-count degree, specific courses may be required; it is awarded upon demonstration of the student's academic excellence and research capability, as demonstrated by a dissertation.

Standards of scholarship. The basic standards of scholarship for students in doctoral programs are the same as for the master's degree. In addition, students who cannot form a faculty committee to supervise their research, who fail departmental screening examinations, or who fail to develop a satisfactory dissertation proposal may be subject to dismissal from graduate standing for failure to make satisfactory progress toward the degree.

Candidacy. A student is advanced to candidacy for a Ph.D. after completing all course requirements and residence requirements, passing departmental preliminary and oral qualifying examinations and any language examinations required by the program, and paying a $25 fee. After advancement, a candidate usually devotes full time to preparation of a dissertation. We recommend that students be advanced within four years of commencing their degree program.

Degree Deadline. Doctoral candidates in all fields are expected to complete their degree requirements within seven years of beginning the program. Students who exceed the deadline must request extensions from the Graduate Council. The Council is concerned that degrees be granted only to students who are current in the scholarship of their field.

Dissertation. The doctoral dissertation must be an original work of research in the candidate's field of specialization. The candidate's doctoral committee determines the dissertation's acceptability.

Normative time. Normative time is the number of years considered to be reasonable for completion of a particular Ph.D. program by a full-time student who enters the program without academic deficiencies. *(See chart at right.)* Normative time varies by department, from 5 to 8 years. It is measured from the time a student begins graduate study at UCSB at any level.

Enrollment requirements. Continuous registration is expected of all graduate students. Under extraordinary circumstances students may request a leave of absence from the dean of the Graduate Division. Students who are neither enrolled nor on approved leave lose all status as students and must apply for reinstatement or readmission, and, when applicable, for readvancement to candidacy.

Final requirements. Departments usually require an oral defense of the dissertation. The Graduate Council requires that dissertations be microfilmed by University Microfilms International to assure wide dissemination. The Graduate Council also requires Ph.D. candidates to participate in the Survey of Earned Doctorates, which provides nationwide information to the National Research Council on all doctoral recipients, their fields, their career plans, and other pertinent data.

NORMATIVE TIMES FOR COMPLETING DOCTORAL PROGRAMS AT UCSB

Years	Doctoral Program
7	Anthropology
7	Art History
5	Biochemistry & Molecular Biology
6	Biology
5	Chemical Engineering
5	Chemistry
6	Classics
5	Communication
6	Comparative Literature
5	Computer Science
6	Counseling Psychology
5	Dramatic Art
5	Economics
6	Education
5	Electrical & Computer Engineering
6	English
6	French
5-6**	Geography
5.5	Geological Sciences
6	Germanic Languages & Literatures
6	Hispanic Languages & Literatures
6	History
5.5	Linguistics
5	Materials
5	Mathematics
5	Mechanical Engineering
6	Music
6	Philosophy
6	Physics
6	Political Science
5	Psychology
6-8*	Religious Studies
5	Sociology
5	Speech & Hearing Sciences
5	Statistics

*dependent on additional language requirements.

**dependent on whether the student entered with or without a master's degree.

Changes in degree requirements. As research or new knowledge appears, requirements may change. Graduate students should be prepared to conform to any changes the department may require.

Filing fee. Under certain circumstances, students may receive degrees without paying full fees for the quarter in which the degree program is completed. The filing fee, which is equal to half of the regular registration fee, may be paid only in the quarter in which a student completes the degree. The filing fee privilege may be used only once.

The filing fee is available to unregistered students who are completing one final requirement (dissertation, thesis, or masters examinations) and who will not be continuing graduate study at UCSB.

Financing Graduate Education

UCSB provides three main types of support for graduate students: fellowship support which provides stipend awards; academic employment which provides either departmental teaching or research assistantships; and need-based support which provides funds based on financial need.

UCSB Fellowships

Special Regents and Humanities Predoctoral Fellowships provide four year support packages to incoming graduate students. These highly competitive awards include a mixture of stipends, teaching or research assistantships, payment of fees and health insurance and access to university housing. Both domestic and international, both doctoral and master's only, students are eligible to receive these awards.

Regents Fellowships provide one year of stipend support plus the payment of fees and health insurance. Students may receive this award twice in their academic career. Both domestic and international students, both doctoral and master's only, are eligible to receive these awards.

Eugene Cota Robles Fellowships provide four year support packages to incoming targeted minorities and women in fields where they are highly underrepresented. Targeted minorities in graduate programs within the University of California system are: American Indians/Alaskan Natives (Aleuts/Eskimos), African-Americans, Chicanos, Filipinos, Puerto Ricans, Polynesian/Pacific Islanders, Puerto Ricans, and Latinos in all fields. Asian-Americans in the arts, humanities, and social sciences are also targeted. All women in the physical sciences (math, chemistry, physics) and in engineering regardless of race or ethnicity are also targeted by the University of California System. The Cota-Robles Fellowship is also designed for students who show great promise for an academic career, particularly within the University of California. These awards provide a combination of stipend and teaching or research assistant support, payment of fees and health insurance and access to university housing. Only targeted domestic doctoral (or M.F.A.) students may receive these awards.

Doctoral Scholars Fellowships also provide four years of support to incoming targeted minorities and women in fields where they are underrepresented. These awards provide a combination of stipend and teaching or research assistant support, summer support and payment of fees and health insurance. Only targeted domestic doctoral (or M.F.A.) students may receive these awards.

Graduate Opportunity Fellowships provide one year of stipend support plus the payment of fees and health insurance. Only targeted domestic doctoral students (or M.F.A.) may receive these awards. Students are eligible to receive this award twice in their graduate careers.

Non-Resident Tuition Fellowships. Students who are not residents of California (including international students) may be eligible to receive full or partial non-resident tuition waivers as part of a fellowship package or part of departmental support.

Graduate Humanities Research Assistantships are designed to assist talented continuing doctoral students in the humanities to pursue original work. This fellowship provides an academic year stipend and the payment of fees and health insurance. Students are eligible to receive this award twice in their graduate careers.

Graduate Research Mentorship Program is designed to provide opportunities for targeted doctoral minorities and women in fields where they are under represented with the opportunities to pursue original work in their field. This fellowship provides an academic year stipend and the payment of fees and health insurance. Students are eligible to receive this award twice in their graduate careers.

President's Dissertation Year Fellowships are given on an annual competitive basis to top targeted minority and women students who are at the dissertation writing stage of their graduate careers. Five are given each year.

Humanities/Social Science Research Grants of up to $2,000 are designed to assist students with their original research or creative projects in the social sciences and the humanities.

Academic Senate Travel Grants are administered through the Graduate Division to assist advanced graduate students with travel expenses when they are invited to give papers at scholarly meetings; and for intercampus exchange to enable students to use library resources at other UC campuses, Stanford, the University of Southern California, the California Institute of Technology, and the U.S. Geological Survey.

Graduate Student Fee Fellowships in addition to the requirement of academic merit also require students to show financial need as determined by the annual AFFASA report and the University's Office of Student Financial Services. This fellowship provides up to three quarters of fee payment. International students who are also financially needy as determined by federal guidelines for financial need are also eligible to apply. Both master's and doctoral students are eligible. Credential students are also eligible to receive up to $1,800.

UCSB General Affiliates are a community-based support group of the university and provide up to $1,000 to doctoral candidates who are advanced to candidacy to assist them in the final completion of their degrees. A competition for these awards is held annually.

Interdisciplinary Humanities Center provides a variety of grants and fellowships to graduate students in the humanities. Contact the IHC at (805) 893-3907 for more information.

For more information on graduate affirmative action fellowships, contact the Graduate Division at (805) 893-2710.

Student Employment

There are two categories of university employment: Academic employment and part-time university staff employment. Academic employment is the single largest source of graduate student support. Graduate students may be employed as teaching assistants, graduates student researchers, readers, tutors, and associates. Students apply directly through their departments for academic employment and through the Campus Learning Assistance Services for additional tutor positions. A full teaching assistant position pays a monthly salary plus health insurance. A full time research assistant position is usually provided by a faculty member's research grant and provides a salary plus the payment of fees and health insurance and out-of-state tuition if necessary.

Many part-time university staff positions are also available on campus. Jobs are listed at the university's Career Planning and Placement Office and the UCSB Personnel Office. Graduate students may work up to fifty percent time in university staff positions.

Need-Based Financial Support

Graduate students may apply for a variety of need-based awards including work-study grants and loans through the University's Student Financial Services Office. Students must file the AFFASA (A Free Form for the Application for Federal Student Aid) each year and provide the Financial Services Offices with supplemental information as they request it. The Financial Student Services Offices also assists students in applying for California State Graduate Fellowships Grants, which are need-based grants sponsored through the California Student Aid Commission. Questions about need-based aid should be addressed directly to the Financial Student Services Office, UCSB, Santa Barbara, CA 93106-3180, (805) 893-2432.

Extramural Funding

There are numerous federal and foundation fellowship opportunities for graduate students including support for incoming students, continuing student support, dissertation support and post-doctoral opportunities. The Graduate Division maintains an extramural research room in the Library (room 2576) which has a database of funding opportunities as well as guides, directories and other resources to assist graduate students in finding extramural support and in writing successful proposals.

The Graduate Division also periodically offers workshops on extramural grant development. Some departments also offer seminars on grant development, and maintain information on grants available within the discipline.

For information on any aspect of graduate student support, contact the Graduate Financial Support Section in the UCSB Graduate Division, Cheadle Hall 3117, Santa Barbara, CA 93106 or call (805) 893-8344.

Student Services and Activities

Various services and activities are available to UCSB students, including academic counseling, personal counseling, career planning, health care, services to international students, services to students with disabilities, athletic and recreational activities, and numerous student organizations. Additional information about the services and activities described below may be obtained directly from the appropriate office.

Student Services

Orientation

New undergraduate students and their parents are encouraged to attend a two-day orientation program offered at various times during the summer in conjunction with the Colleges of Letters and Science, Engineering, and Creative Studies. Orientation participants have the opportunity to meet faculty, deans, staff, and students; to learn about student services, academic offerings, and enrollment procedures; and to register for courses for the fall quarter. Participants stay in university residence halls and have meals in the dining commons. For new undergraduates not attending summer orientation, and for all new graduate students, orientation meetings are held during pre-instructional activities at the beginning of each quarter. Details are available in the Schedule of Classes. Orientation Programs also offers a variety of activities each fall for new and returning students. The Orientation Programs office is located in Building 427. Telephone: 893-3443.

Housing

Students at UCSB may choose their housing from university-owned campus residence halls, single and family student apartments, off-campus apartments, privately owned residence halls, sorority and fraternity houses, and a housing cooperative.

University-owned residence hall information is available from the Housing and Residential Services office, Residential Services Building 1501. Telephone: 893-2760. University-owned single and family student apartment information is available from the Office of Apartment Living, Santa Ynez Apartments, Building 818. Telephone: 893-4501. Off-campus housing information may be obtained from the Community Housing Office, Building 434, Room 110. Telephone: 893-4371.

Application forms for university residence halls will be provided after a student's application for admission has been received. Housing in university-owned residence halls is determined by "random draw." Returning an application and a $20 application fee will place a student's name in the draw; however, housing is not guaranteed. Students who cannot be accommodated in university housing will be assisted by the Community Housing Office in finding suitable housing.

(NOTE: Effective Fall, 1993 all new freshman will be guaranteed housing in university or privately owned residence halls.)

Housing and Residential Services provides conference services in the summer for organizations with educational objectives. Information about conference facilities may be obtained from Conference Services, Santa Rosa Administrative Center. Telephone: 893-3072.

Office of Residential Life

The Office of Residential Life, Trailer 335, assists students who live in the six university owned residence halls and serves as a university liaison for students in the three privately owned residence halls. Students may seek assistance, advice, and support from the professional staff on housing, academic, personal, and social development matters. The residential education program provides a quality living experience as well as opportunities to interact with faculty and staff within their living quarters. The program sponsors academic classes, educational programming, interest halls, and the Residence Hall Association Student Government. Telephone: 893-3281.

Food Services

Three dining commons are located on campus near the residence halls. Students who live on campus use Access to enter the dining commons of their choice. Students who live off campus may purchase meals in the campus dining commons, either on a per-meal basis, or through a quarterly contract. Contract arrangements may be made through the Food Services office, 1501 Residential Services Building.

A cafeteria, deli, gourmet coffeehouse, and convenience store are located in the University Center and are open weekdays. A cafe, two convenience stores, a grill cart and two gourmet coffee carts are located at various sites around campus. All of the satellite operations are open weekdays, the Arbor, located near the library, is open seven days. Access cards are accepted and encouraged at all locations with the exception of the cart operations. Telephone: 893-3773.

Academic Advising

Many sources of academic advising are available to students at UCSB. Each college provides advice to its students on matters such as major selection, program planning, academic difficulties, degree requirements, and petitions for exceptions to requirements. Undergraduate and graduate advisers are available in each major department to assist with decisions about majors, careers, and graduate schools. An honors adviser (telephone: 893-3109) assists students who wish to participate in the College of Letters and Science Honors Program.

Pre-professional advising is available in the College of Letters and Science for students considering careers in business administration, dentistry, law, nursing, physical therapy, speech therapy, and veterinary medicine. General information is also available to students interested in other professional areas such as architecture, journalism, and social work. A pre-health sciences adviser (telephone: 893-3201) offers special assistance to students who hope to attend professional school in the health sciences. Special advising services are also available to re-entry and nontraditional students (telephone: 893-3109). The credential adviser in the Graduate School of Education, Phelps Hall 1190 (telephone: 893-2036), holds weekly meetings to acquaint students with the teaching credential program at UCSB.

Campus Learning Assistance Services (CLAS)

Campus Learning Assistance Services (CLAS) helps students increase their mastery of course material through course-specific tutoring and academic skills development. CLAS provides group tutorials in most disciplines, as well as workshops on reading, writing, test-taking and study skills. Students can also receive one-to-one assistance in foreign language, English as a Second Language, as well as with any writing assignment or project. CLAS services include a computer-assisted ESL Lab in CLAS-Bldg 300 and an Athletes Study Table at our Isla Vista site. CLAS also helps students prepare for pre-professional examinations, including the GRE, LSAT and CBEST. CLAS is open weekdays, with drop-in and many services extending well into the evenings Monday-Thursday. The administrative office and sign-up areas for students are located in Building 477 in the student services complex. Telephone: 893-3269 or 893-4248.

Office of the Dean of Students

The Office of the Dean of Students, Building 427, provides the focus and direction necessary to address the wide variety of needs and concerns that students articulate while enrolled at UCSB. Services include general assistance in problem solving and emergencies, processing letters of recommendation and verification of enrollment. The protection of scholastic integrity and the prevention of academic dishonesty are fundamental to the mission of the Dean's office; the office also provides education about and enforcement of general campus regulations including various forms of discriminatory harassment. Telephone: 893-4569.

Services to Students with Disabilities

The Disabled Students Program (DSP), South Hall 1417, assists students with temporary or permanent physical, mental, and/or learning disabilities who have special needs related to campus life and the completion of a university degree program. The DSP provides interpreters, note takers, readers, mobility assistance, advising, and referrals. An inventory of adaptive equipment is available for use by eligible students. Telephone: 893-2668, V/TDD.

Educational Opportunity Program/ Student Affirmative Action (EOP/SAA)

The Educational Opportunity Program/ Student Affirmative Action (EOP/SAA) central offices are located in Building 434, Room 125. The EOP/SAA Program's mission is to increase eligibility rates among designated underrepresented groups, to recruit a diverse high quality group of UC eligible high school and community college students, to provide guidance through the admission and enrollment process and to provide the academic and personal support for students to graduate from UCSB. Telephone: 893-3235.

Equity and Advocacy Programs

Equity and Advocacy (E & A) coordinates education of the campus community about issues regarding racial awareness, cultural differences, sexual orientation, and disabled persons. Programs are designed to generate dialogue, discussion, and debate in order to raise awareness, increase sensitivity, and promote understanding among and between different groups/individuals so that all members of the campus population feel accepted, welcomed and appreciated. This office oversees the Education Program to Increase Racial Awareness (EPIRA), which has produced a series of videos documenting the experiences of people of color at UCSB. E & A also serves as a referral source for students experiencing discrimination or offensive behavior, advising them or referring them on to other resources as appropriate. E & A staff can assist departments, organizations, or groups in planning educational programs about multicultural awareness as well as provide media resources and trained facilitators to lead discussions of videotapes/films about racism, heterosexism, and prejudice regarding disabilities. E & A is continually in the process of training volunteers and welcomes expressions of interest by students, faculty, or staff at UCSB. Telephone: 893-8386.

Peer Services

Many students at UCSB provide services to fellow students in exchange for work experience and either academic credit or a stipend. Peer service opportunities include work as resident assistants and housing advisers, counseling and career peers, peer health educators, veterans' affairs advisers, and academic peer advisers in the College of Letters and Science.

Additional opportunities exist in the Community Service Organization, a civilian extension of the campus police department; the EOP/SAA office; the Women's Center; Orientation Programs; and the rescue team.

Veterans Benefits Assistance

The Veterans' Support Services office assists students with the application and the enrollment verification necessary to receive educational benefits for veterans and dependents of veterans. Telephone: 893-2432.

Counseling and Career Services

Counseling and Career Services helps students achieve their personal, social, academic, and career goals. The confidential services, provided by professionals (or peers when appropriate), are free to all registered students. Counseling services include individual counseling, groups and workshops, minority counseling, behavioral self-help, and crisis counseling.

Career Planning Services offers career counseling, career testing, career groups and workshops, and information about careers and graduate and professional schools and programs through Career Resources.

The Career Employment Service advises students about work opportunities; provides information about resume writing, interview techniques, and job search strategies; coordinates on-campus interviews with employer representatives, and assists advanced degree and credential candidates in education through the Educational Reference Service. Career-related internships and part-time and seasonal job placements are coordinated through the Applied Learning Program.

All services are located in Building 599. Telephone: 893-4411.

Student Health Service

Certain short-term health care services available at the student health service are covered by payment of the $12.00 health fee payable at the time of registration. These services include: (1) nurse and physician consultation in general and internal medicine, orthopedics, dermatology, gynecology, and psychiatry; (2) medications and dressings administered by nurse or physician; (3) laboratory tests and X-rays; and (4) birth control counseling. Other health services, such as antigen injections, prescriptions, vision and dental care, physical therapy procedures and birth control devices, as ordered by staff physicians, are available at additional charge. Call 893-3371 to make an appointment. The university sponsors a supplemental accident and sickness insurance plan. Call 893-2592 for more information. All services located in Building 588.

Speech and Hearing Center

The Speech and Hearing Center, Snidecor Hall 1657, is open to students with speech, language, or hearing disorders. The center is staffed by professionally certified speech pathologists and student clinicians. Evaluation and appropriate treatment are provided for a nominal fee. Telephone: 893-2148.

Women's Center

The Women's Center's goal is to challenge barriers which inhibit women's development through education, research, and advocacy. To this end the center provides lectures, workshops, and films for all students, faculty, staff, and members of the community. In addition, the center provides an extensive library; a women's art gallery; rape and sexual harassment prevention education programs; counseling and consultation services for individuals and groups; and opportunities to meet with scholars, activists, artists, and writers in a comfortable, inviting place. The center is located in Building 434. Telephone: 893-3778.

Child Care

The University Children's Center, located on West Campus, serves the child care needs of students, faculty, and staff. The center is accredited by the National Association for the Education of Young Children and provides a high quality child care program for children three months to seven years of age in full and half-day classes. Tuition varies depending on the age of the child and the number of days and hours in attendance. The center is open daily from 7:30 a.m. to 5:30 p.m., Monday through Friday. For information and to place your child's name on the waiting list please call the Children's Center. Telephone: 893-3665.

Office of International Students and Scholars

The Office of International Students and Scholars, Building 434, provides academic and personal counseling and assistance to international students. Every nonimmigrant student is required to report to the office; students should bring passports and visa documents with them. The office conducts an orientation program at the beginning of the fall quarter and provides information about registration, immigration, and academic and other requirements that will affect the international student's stay at the university. Telephone: 893-2929.

Graduate Students Association (GSA)

The Graduate Students Association (GSA), an organization composed of all UCSB graduate students, seeks to represent their views and interests. The GSA is governed by an executive committee, which meets weekly, and an elected council whose monthly meetings are open to all members. The GSA appoints students to various university committees, issues publications, and schedules a variety of activities, including new student orientation. Each quarter all graduate students are assessed a $5.50 GSA fee. Further information is available from the GSA office, South Hall 1409 (telephone: 893-3824) or from departmental graduate assistants.

Office of the Ombudsman

Ombudsmen serve as trouble-shooters for students, faculty, and staff members whose problems have not been resolved by other agencies. The office is located in Trailer 989. Telephone: 893-3285.

Student Grievance Procedures

UCSB is in compliance with all legislation that seeks to eliminate discrimination toward students on the basis of race, color, national origin, religion, handicap, sex, sexual orientation, or age. (Sexual harassment is considered to be a form of sex discrimination.) Students who wish to file a grievance arising from alleged discrimination must do so at the Office of the Vice Chancellor— Student Affairs, Cheadle Hall 5203. An outline of formal student grievance procedures is contained in the Appendix. Sexual harassment complaints may be filed with the Sexual Harassment Complaint Resolution Officer, Paula Rudolph, 3117 Cheadle Hall. Telephone: 893-2546.

Student Activities

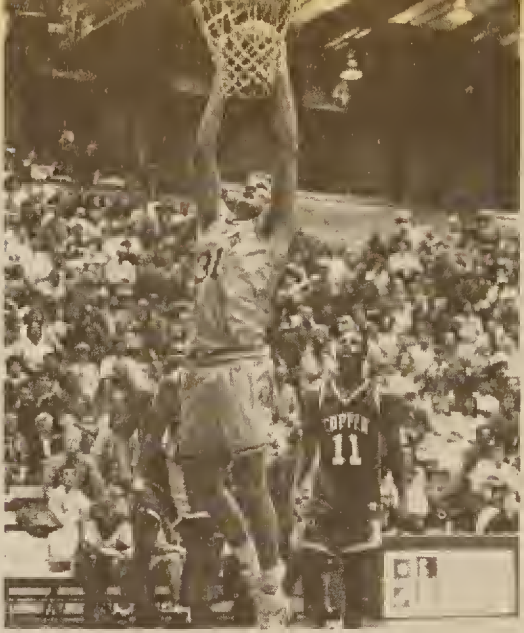
UCSB students have the opportunity to participate in any of 300 student organizations. A complete list of all organizations is available in the Campus Activities Center, located on the third floor of the University Center (UCen). Some of the opportunities available to students are described below.

University Center (UCen)

The UCen is the focal point for student activities on the UCSB campus. It is the headquarters of the Associated Students and the Campus Activities Center. The UCen houses the UCSB Bookstore, UCen Food Services, a barber shop, an art gallery, a professional travel agency, meeting and conference rooms, check-cashing services, and a U.S. post office.

Campus Activities Center

The Campus Activities Center, located on the third floor of the UCen, plans and schedules many co-curricular activities and educational programs. The staff assists organizations with leadership training and development, program planning, fund raising, trustee accounts, publicity and promotion, and special projects. CAC also publishes the Campus Organizations Directory which lists the statement of purpose and contact persons for over 300 campus organizations. If you don't find an organization that interests you, CAC can help you start one. Telephone: 893-4550.



Associated Students

General Information: Associated Students (A.S.) is the official student government at UCSB and provides many opportunities for student participation in various campus, local, and statewide issues of student concern. All undergraduate students are members of A.S. through payment of required quarterly registration fees.

Participation in student government provides for extensive campus and community involvement, as well as pre-professional and leadership experience. The Legislative Council Members and Executive Officers, who are elected annually each spring, govern and administer the budget and internal programs of Associated Students.

A.S. also provides a variety of business services to meet the needs of students. These include the A.S. Notetaking Service, A.S. Ticket Office, A.S. Cashier Service, A.S. Wordprocessing, A.S. Bikeshop, A.S. Legal Service, and the A.S. Short Term Student Loan Program.

Undergraduates may get involved by running for an elective office or serving on any number of committees open to all students. Included are committees involved in social action, A.S. legal, financial, and business matters, academic concerns, and campus wide affairs. Students may also be nominated to serve on an Academic Senate or Administrative Advisory Committee.

Further information on Associated Students is available at the A.S. Main Office. Telephone: 893-2566.

Community Service Projects: Through the ASUCSB Community Affairs Board (CAB), students can find out about community and campus volunteer opportunities, non-profit agency volunteer training, and one-time community service events. CAB connects students to local non-profit and human services agencies in need of student volunteers. CAB is a great place to volunteer and provides for career exploration, leadership developmental, and personal growth. Telephone: 893-4296.

Program Board: Associated Students Program Board presents a wide variety of Educational and Cultural events including: Lectures, Concerts, Spring Extravaganza, Comedy Night, Films, Sneak Previews, and New and Local Bands. Students involved in Program Board gain skills in planning and organizations, managing the budget, leadership, technical knowedge, and exposure to the entertainment industry. In addition Program Board provides job opportunities for students in security and production. Telephone: 893-3536.

Student Media: UCSB student publications include the student newspaper (*Daily Nexus*), yearbook (*La Cumbre*), literary magazine (*Spectrum*), journal of undergraduate research (*Discovery*), and journal of graduate research (*Thresholds*). UCSB also has a radio station, KCSB-FM and KJUC-FM Cable. Further information about student media is available in the Storke Publications Building and in the Associated Students office.

Residence Halls Association

The Residence Halls Association (RHA), located in the San Nicolas Residence Hall lobby, is the governing body of and for students living in university-owned residence halls. RHA also coordinates social, educational, and multicultural activities for students living in the residence halls. For events information or to speak with board members, call the RHA Information Hotline: (805) 893-4877.

Fraternities and Sororities

UCSB has 32 Greek-letter organizations comprised of 15 sororities and 17 fraternities with chapter houses located in the student community of Isla Vista. Many of these organizations offer their members housing and dining facilities and the opportunity to participate in a number of on- and off-campus activities. For more information on Greek life, contact the Campus Activities Center. Telephone: 893-4550.

Intercollegiate Athletics

The intercollegiate athletics program at UCSB offers 11 varsity sports for men (cross-country running, water polo, soccer, basketball, swimming and diving, track and field, baseball, golf and tennis) and nine for women (tennis, volleyball, swimming and diving, track, gymnastics, cross-country running, softball, basketball, and soccer).

All men's and women's varsity teams compete in the National Collegiate Athletic Association, Division I. Telephone: 893-3291.

Alumni Association

Graduates and other former UCSB students are eligible for membership in the UCSB Alumni Association, which seeks to retain and develop for the university the interest and involvement of former students of UCSB and its predecessor institutions. The association sponsors regional, constituent, and ethnic alumni clubs; *Coastlines* magazine; a summer family vacation center; the Student Alumni Association; homecoming and class reunions; faculty, student, and alumni awards; and many other programs. Telephone: 893-2288.

Physical Activities and Recreation

The Department of Physical Activities and Recreation maintains a year-round program of educational classes and sports related activities, which meet the needs of students of all ability levels including the physically challenged. Programs include the Athletic Coaching Certification, Aerobic Dance Certification, Aquatics, Intramural and Open Recreation, Adventure Programs, and Club Sports. Recreation offers an Olympic size swimming pool, a gymnasium, a gymnastics area, a weight room, a photography laboratory, a Nautilus training facility, a wellness laboratory, aerobics studio, ropes course and climbing wall, and recreational sailing center. Each quarter the department publishes the *Leisure Review*, which contains listings of intramural, recreation, and leisure activities. Telephone: 893-3738 or 893-2181.

Fees, Expenses, and Financial Aid

Billing Office, Cheadle Hall 1311; Telephone (805) 893-2155
Student Financial Services, South Hall 1607;
Telephone (805) 893-2432

The exact cost of attending the University of California, Santa Barbara will vary. Generally, however, the total undergraduate costs, including fees, books and supplies, transportation, and personal expenses for three quarters on campus during the 1993-94 academic year are estimated to be $11,993 for single residents of California and $20,446 for nonresidents, including international students. Total graduate student costs including fees, books and supplies, transportation, and personal expenses for three quarters on campus are estimated to be $13,392 for single residents of California and $21,845 for nonresidents. A detailed breakdown of estimated expenses is available upon request through the Student Financial Services Office.

The university's accounts receivable billing system (known as Billing, Accounts Receivable, and Collections, or BARC) consolidates debts owed to the university, including fees, housing expenses, and library fines. Students receive a monthly statement of their account status whenever they have financial obligations to the university. Fee payment deadlines are published quarterly in the Schedule of Classes. Newly admitted students are notified of deadlines each quarter.

Qualified students are eligible for financial assistance in the form of scholarships, loans, grants, and/or work-study.

SUMMARY OF QUARTERLY FEES AND EXPENSES, 1993-94

The following fees are proposed as of the publication deadline for this catalog. They are subject to revision, including retroactive revision during the academic year, without notice by the Regents of the University of California or by action of the California legislature.

	Undergraduate Students	Graduate Students
Registration fee	$231.00	$231.00
Educational fee	$920.00	$920.00
Associated Students fee	$24.30	—
Graduate Students Association fee	—	$5.50
Child Care Center fee	$3.00	$3.00
Student Health fee	$12.00	$12.00
Graduate and International Student Health Insurance*	—	$235.50
University Center fee	$6.00	$6.00
Transit fee	$5.90	$5.90
Club Sports fee	$3.00	$3.00
Total for California residents	**$1,205.20**	**$1,421.90**
Tuition for nonresidents	$2,566.00	$2,566.00
Total for nonresidents	**$3,771.20**	**$3,987.90**

Fees are subject to change without notice.

*Mandatory for all undergraduate international students.

Fees and Expenses

Application fee

Every applicant for admission must submit a nonrefundable $40 fee with the application.

Deposit fee

A nonrefundable $100 deposit is required of undergraduates when they return the Statement of Intention to Register at UCSB. The deposit will be applied to the registration fee only if students enroll in the quarter for which they have been admitted.

Registration fee

The registration fee is the same for both undergraduate and graduate students. This fee covers such student expenses as athletic facilities, laboratory fees, outpatient care furnished by the Student Health Service, and counseling and placement services. This fee is charged whether or not students use these services.

Educational fee

The educational fee is paid by all students registered at UCSB to cover a variety of educational costs as determined by the regents.

With the approval of the appropriate college dean, undergraduate students may obtain deficit load (or part-time) status prior to the beginning of the quarter. Approval is based upon verifiable reasons of employment, health, or family responsibility. Students enrolled in 10 or fewer units who have obtained deficit load approval prior to the beginning of the quarter may be eligible for a 50-percent reduction of the educational fee.

Associated Students fee

The Associated Students membership fee is $24.30 per quarter and is paid by undergraduates at the time of enrollment.

Graduate Students Association fee

All graduate students are assessed a $5.50 fee each quarter for the Graduate Students Association and $3.00 per quarter for the Child Care Center.

Graduate student insurance fee

All graduate students are assessed a quarterly fee for mandatory graduate student health insurance. The fee is paid by the employer for teaching and research assistants who are employed 25% time (10 hours per week) or more. All other graduate students must either pay the fee or prove to the Student Health Insurance office that they have comparable coverage under another health insurance policy. The university graduate student health insurance policy provides year-round and world-wide coverage. Contact the Student Health office for details regarding coverage at (805) 893-2592.

University Center Building Fee

All students are assessed a University Center (UCen) fee of $6 per quarter, used to repay construction loans. Students enrolled in 5.5 units or fewer are eligible for a full refund of this fee.

Transit Systems Fee

The transit systems fee provides unlimited local Metropolitan Transit District (MTD) bus service for all registered students.

Nonresident Tuition Fee

Students who have not been legal residents of California for the established time period are classified as nonresidents and are subject to payment of a nonresident tuition fee of $2,566 per quarter. Regulations governing deter-mination of residency are outlined in the Appendix. Newly admitted and returning students are required to file a Statement of Legal Residence. Questions concerning residency classification may be referred to the deputy of the Attorney in Residence Matters in the Office of the Registrar.

Undergraduate Accident and Sickness Insurance Plan Fees

UCSB sponsors an undergraduate accident and sickness insurance plan, which offers certain medical services not provided by the Student Health Service. It also provides medical protection outside the Santa Barbara area. It is highly recommended that students not covered by a private policy purchase this plan as added medical protection. Call 893-2592 for further information.

All undergraduate nonimmigrant international students are required to purchase the graduate student health insurance plan as a condition of registration. An insurance fee will be automatically assessed. Please call the Student Health Service at 893-2592 for further information or if you wish an exemption from the purchase of the plan because of other comparable insurance coverage. Insurance fees are subject to change without notice.

Additional Fees

Intercampus Transfer Fee

Undergraduate students who wish to transfer from one UC campus to another must pay $40 with their intercampus transfer application.

Readmission Fee

A fee of $40 is required when submitting an application for readmission.

Parking Fees

Parking permits are required for all vehicles parked at UCSB from 6:30 a.m. to 5:00 p.m. Monday through Friday on regular business days. Students who live within one mile of the campus boundary are not eligible for parking permits for automobiles, motorcycles, or mopeds.

A limited number of parking permits are sold to residential students; parking is at a premium. Parking permits and lot assignments for residential students are awarded by lottery with no assurance that all applications can be accommodated. A table of current parking fees follows and is subject to change.

Under the terms of the current contract between UCSB and MTD in effect 1/1/92, students may ride the local bus system (MTD) at no charge by showing a valid registration card as an alternative to campus parking.

Complete information about parking and vehicle operation may be obtained from Parking Services. Telephone: 893-2346.

Parking Fees 1993-94

Fees are subject to revision without notice.

Automobile	Motorcycle/ Moped
$144/year	$24/year
$36/quarter	(not available)
$5/day	$1/day

Refunds

A full refund of fees may be granted to students who withdraw prior to the first day of instruction, and partial fees may be refunded to students who withdraw before the beginning of the sixth week of classes. Information about refunds, and about fees and deposits, is available in the brochure University of California Student Fees and Deposits, available from the Office of the Registrar. Fee and refund information is subject to change without notice.

SCHEDULE OF REFUNDS

1-14 days	**80%**
15-21days	**60%**
22-28 days	**40%**
29-35 days	**20%**
36 days or more	**0%**

Financial Aid

Although students and their parents are expected to make the maximum effort to cover college expenses, many financial aid programs exist to supplement students' resources. Funds are made available by the federal government, the State of California, the Board of Regents of the University of California, and various private organizations, corporations, and donors.

Applicants may apply for financial aid before they learn their admission status. An offer of financial assistance is sent only to students who have been admitted to the university (or whose admission status is pending). Students must be U.S. citizens or permanent residents of the U.S. to apply. Aid recipients must be enrolled at least half-time as regular students in eligible programs and make satisfactory academic progress in their course of study. Students enrolled in Extension or as Limited Status are not eligible for aid. Priority for funds administered by UCSB is given to full-time students.

Applications for traditional need-based aid require the completion of the Free Application for Federal Student Aid (FAFSA), available from the UCSB Student Financial Services Office, as well as from local high schools and colleges. The 1993-94 FAFSA should be available in December 1992. The FAFSA, when submitted to the application processor (either the American College Testing program or the College Scholarship Service, depending on which version of the FAFSA is used), entitles qualified students to be considered for awards from the California Student Aid Commission (CSAC), the UCSB Student Financial Services Office, and the federal Pell Grant Program.

In addition to completing the FAFSA, a separate application must be completed to determine eligibility for all university scholarships. New students must complete the scholarship application which is contained in the UC Undergraduate Application for Admission and Scholarships. Continuing students must complete the UCSB Scholarship Application available from the Student Financial Services Office. Some scholarships, such as the Regents' Scholarship Program, require supporting materials in addition to the Scholarship Application.

UCSB need-based awards are usually announced beginning in April and take the form of a "package" of aid consisting of scholarship, grant, loan, and work-study, according to the financial need of the applicant and funds available. Awards may be adjusted at any time as a result of change to the applicants enrollment or financial status. Awards may also be revised during the year for a variety of reasons, depending on availability of funds.

Deadlines

The deadline for submitting the 1993-94 FAFSA for need-based UCSB aid and for programs of the California Student Aid Commission is March 2, 1994.

The deadline for submitting supporting materials for the Regents' Scholarship Program is January 11, 1993.

Colleges and Schools

Departments, Programs, Courses

The following section of this catalog contains: (1) information about the offerings and requirements of the colleges and their individual departments; (2) faculty lists; and (3) course lists. The overall organization is alphabetical by university academic unit (College of Creative Studies, College of Engineering, College of Letters and Science, Graduate School of Education), and alphabetical by department within each academic unit, as indicated in the table of contents. Students should read the chapter about their college as well as the entries related to departments of interest.

Because the catalog must be prepared in advance of the academic year it covers, it may not reflect very recent changes in courses, requirements, or faculty. The Schedule of Classes, available in the UCSB Bookstore before the opening of each new quarter, contains current information about class offerings and instructors and indicates when and where courses are offered. Students who want to plan their schedules before the Schedule of Classes is available should contact individual departments to determine when particular courses will be offered.

Several important matters should be noted:

- Faculty members are occasionally on leave. Department offices are the best source of information about the leave status of faculty members.
- Prerequisites for courses should be noted carefully; a course has no prerequisite unless so designated.
- Preparation for courses is the student's responsibility, although instructors reserve the right to enforce specific course prerequisites.
- Some courses are not offered every year; consult the *Schedule of Classes* or the department for authoritative information.
- Admission to UCSB does not guarantee enrollment in any particular class.

Course numbers are assigned as follows:

1-99. Lower-division courses, open to all UCSB students; especially appropriate for freshman and sophomore students; may not be taken for upper-division or graduate credit. The College of Creative Studies utilizes a separate and distinct numbering system, which is explained in their section of this catalog.

100-199. Upper-division courses, ordinarily open to students who have satisfied the prerequisites specified in catalog descriptions of these courses. Prerequisites may include appropriate prior college-level courses or their transfer equivalents, completion of six terms of college work, or a combination of six terms of college work and appropriate prior college courses. Generally, upper-division courses are not recommended for freshman students. No graduate course credit is allowed for upper-division courses even if additional work is completed, but a limited number of upper-division courses may be applied in fulfillment of graduate degree requirements. Students in the College of Letters and Science should review the Letters and Science List of Courses to determine if an upper-division course is applicable to the college's 60 upper-division unit requirement.

198-199. Independent studies courses, open to students who (1) have attained upper-division standing; (2) have at least a 3.0 grade-point average for the preceding three quarters; (3) can demonstrate appropriate academic background; and (4) have obtained necessary approvals as outlined in the Schedule of Classes. A student may take up to 5 units per quarter, 15 units per year, and 30 units total in all 198 and 199 independent studies courses.

200-299. Graduate courses, ordinarily open only to graduate students who have completed at least 12 upper-division units related to the subject matter of the course. Exceptionally qualified undergraduates, with at least 12 units in the subject and a cumulative grade-point average of 3.0 or higher, may petition to enroll in graduate courses and must do so prior to registration.

300-399. Courses designed for a professional sequence in approved credential programs in the Graduate School of Education.

400-499. Courses devoted to the techniques and practices of translation and interpretation from and to a foreign language; normally not applicable to graduate degree requirements.

500-599. Courses reserved for advanced study and research; not open to undergraduates.

How to read course listings:

Each course listing contains the course number, course title, number of units of credit, name of instructor, prerequisites if any, and course description. A course in which the instructor is listed as Staff may be offered by various instructors.

One or more codes (F, W, S, SS) may appear at the end of a course entry, indicating whether the course will be offered in the fall, winter, or spring quarter, or in summer session.

Course numbers suffixed with the letter L are usually laboratory courses.

College of Creative Studies

College of Creative Studies, Building 494; Telephone (805) 893-2364
Acting Provost: William Ashby

The College of Creative Studies at UCSB is unique in the University of California. Students are enrolled on evidence of talent for advanced and independent work in an art or a science. The aim of the college is to instruct these students by all the means available to a faculty of artists and scholars whose interest is to work closely with talented undergraduates. There are no lecture classes in the college, only tutorials and seminars.

Work in the college leads to the Bachelor of Arts degree in Creative Studies with an emphasis in art (painting, sculpture, or book arts), biology, chemistry, literature, mathematics, music composition, or physics; and to the Bachelor of Science degree in Creative Studies with an emphasis in chemistry, mathematics, or physics.

The college publishes the annual *College of Creative Studies Announcement*, containing important information for students. It may be obtained, along with any further information about the college, from the college office.

Admission

Candidates for the college must meet the entrance requirements of the University of California. Before a final decision regarding an applicant's enrollment in the College of Creative Studies will be made, a letter of application and a transcript of the applicant's scholastic record must be received by the college. Candidates in the arts will submit work in evidence of talent; work in evidence is helpful but not essential for candidates in mathematics and the sciences. In the arts, the evidence will be fiction, poetry, paintings, sculpture, musical compositions, or critical papers; in the sciences, examples of independent research and other evidence of an exceptional capacity for intellectual pursuit, discovery, and reformulation.

Transfer. Students may apply at any time for transfer into another academic unit of the university with appropriate credit granted for their standing in the college. Those applying for transfer to the college, if accepted, will be enrolled at the equivalent College of Creative Studies level. Students are normally expected to spend at least six quarters enrolled in the college to receive a degree from the College of Creative Studies.

Grading and Unit Requirements

The grading system in the college is focused on accomplishment. It is a combination of pass/no record and variable-unit credit. A pass in a college course is given only for work completed at above-average (3.0 or higher) level. For each course in the college, the student may receive any number of units from 0 to 6. Zero (0) is no record—the course is not recorded on the student's transcript; any number of units from 1 to 6 is pass. In each course the student enrolls for the specific number of units of work (up to a maximum of 6 units) planned during the quarter, but at the end of the quarter the instructor makes the final determination of the unit value of the student's work in the course.

Courses taken outside the College of Creative Studies will be graded according to the grading system of the college in which the courses were taken. Students must maintain a 2.0 grade-point average in courses taken for letter grades outside the College of Creative Studies.

Each unit of credit earned is counted toward graduation; 180 quarter-units of credit qualify the student to be evaluated for graduation with a Bachelor of Arts degree or a Bachelor of Science degree in chemistry, mathematics, or physics in the College of Creative Studies.

Degree Requirements

To receive a Bachelor of Arts or Bachelor of Science degree from the College of Creative Studies, a student must meet two sets of requirements: university degree requirements and college degree requirements.

University Degree Requirements

All undergraduate students must satisfy the university residency, Subject A, American History and Institutions, units completed, and scholarship requirements. These requirements are described fully in the chapter "Undergraduate Education at UCSB."

College Degree Requirements

There are no specific required courses. However, in addition to completing a major under the supervision of their advisers, students are required to complete two courses in any field or fields related to the major, and eight courses in any field or fields broadly distributed and not related to the major. These courses may be taken in the College of Creative Studies or in departments of the College of Letters and Science.

One of these courses must fulfill the ethnic studies requirement: a course that concentrates on the intellectual, social, and cultural experience and history of one of the following groups: Native-Americans, Afro-Americans, Chicanos/Latinos, and Asian-Americans. This course may be selected from a list of ethnicity courses offered through the College of Letters and Science, or it may be a College of Creative Studies course that is classified as an ethnicity course.

All College of Creative Studies courses, except General Studies CS 10 and Physics CS 1A through CS 6, are considered upper division. The only prerequisite for enrollment in any course is the instructor's approval. Because Creative Studies course offerings are not published in the quarterly Schedule of Classes, students should contact the college office for registration details.

Students in the college work closely with their advisers. The adviser is responsible for approving the student's course of study each quarter, and eventually certifying for graduation.

Faculty

William Ashby, Ph.D., University of Michigan, Professor *(romance philology, linguistics)*

Apostolos Athanassakis, Ph.D., University of Pennsylvania *(Greek poetry, classical linguistics)*

Donald Aue, Ph.D., Cornell University, Associate Professor *(organic chemistry)*

Robyn Bell, Ph.D., UC Santa Barbara, Lecturer *(literature)*

Alison Butler, Ph.D., UC San Diego *(bioinorganic chemistry)*

Dan Connally, M.F.A.,UC Davis, Lecturer *(art)*

Daryl Cooper, Ph.D., University of Warwick *(mathematics)*

Roger Freedman, Ph.D., Stanford University, Lecturer *(physics)*

J. Thomas C. Gerig, Ph.D., Brown University, Professor *(bio-organic chemistry)*

Colin Gray, M.F.A., UC Santa Barbara, Lecturer *(sculpture)*

William Kraft, M.A., Columbia University *(music composition)*

Armand Kuris, Ph.D., UC Berkeley, Professor *(parasitology, marine ecology)*

Paul K. Hansma, Ph. D., UC Berkeley *(physics)*

Hank Pitcher, Lecturer *(art)*

Harry Reese, M.A., Brown University, Lecturer *(book arts)*

Francesc Roig, Ph.D., Amherst, Lecturer *(physics)*

Charles Ryavec, Ph.D., University of Michigan, Lecturer *(mathematics)*

Max Schott, M.A., UC Santa Barbara, Lecturer *(literature)*

Logan Speirs, M.A., Cambridge University, Associate Professor *(literature)*

Robert Trench, Ph.D., UC Los Angeles, Professor *(biology)*

Robert R. Warner, Ph.D., Scripps Institution of Oceanography, Professor *(marine ecology)*

Richard Watts, Ph.D., University of Colorado, Ph.D. *(inorganic chemistry)*

Adrian Wenner, Ph.D., University of Michigan, Professor Emeritus *(biology)*

Rosalind Wholden, M.F.A., UC Los Angeles, Lecturer *(art history and criticism)*

John Wilson, Ph.D., UC Santa Barbara, Lecturer *(literature)*

Creative Studies Courses

The following list consists of the kinds of courses offered in the college. Art CS 1, for instance, is "Drawing and Painting." In any quarter there might be as many as 10 sections, each a different course—e.g., "Abstract Painting," "Figure Drawing," etc.

Since these courses are arranged and scheduled after the Schedule of Classes has been printed, interested students should inquire about CCS courses a few weeks before the beginning of each quarter. Further information, including detailed descriptions of courses, is available at the College of Creative Studies office.

General Studies

CS 10. Group Interdisciplinary Studies

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Group studies in an interdisciplinary area, supervised by a member of the faculty of the College of Creative Studies.

CS 20. Advanced Group Interdisciplinary Studies

(1-6) STAFF

Prerequisite: consent of instructor.

Advanced group studies in focused topics in an interdisciplinary area, supervised by a member of the faculty of the College of Creative Studies.

Art

CS 1. Drawing and Painting

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Emphasis on the practice and development of making paintings and drawings.

CS 2. Themes

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Drawing and painting in sequences, and according to themes.

CS 4. Prints

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Emphasis on practice in graphic media (e.g., etching); various methods and materials utilized will be determined by particular faculty interest.

CS 5. Book Arts

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

The study and practice of typography; letterpress printing; both traditional and experimental uses of the printing press; and the book arts.

CS 6. Art Symposium

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

A continuing series of lectures and presentations by artists and professionals closely associated with the arts.

CS. 7. History, Theory, and Criticism

(1-6) STAFF

Prerequisite: consent of instructor

Non-studio emphasis on historical, theoretical, and contemporary ideas and issues. A range of concepts will be discussed, from various approaches, according to the particular interests of faculty and students.

CS 10. Graphic Study of the History of Graphic Ideas: Drawing

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

The surviving works of art from the Paleolithic period until now constitute an existing order that may be considered the proper material for study by aspiring draughtsmen and painters. Art CS 10 emphasizes drawing.

CS 11. Graphic Study of the History of Graphic Ideas: Painting

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

The surviving works of art from the Paleolithic period until now constitute an existing order that may be considered the proper material for study by aspiring draughtsmen and painters. Art CS 11 emphasizes painting.

CS 15. Art Colloquium

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

CS 20. Sculpture

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Practice in the design and development of making a sculpture using various materials as determined by particular faculty interest.

CS 25. Sculpture-Related Studies

(1-6) STAFF

Prerequisite: consent of instructor.

Non-studio emphasis on generation and development of images, ideas, and imagination through field trips, slides, presentations, and videos. Primarily for sculptors.

CS 50. Elements of Filmmaking

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Practice in theory and technique of filmmaking or video. Students will learn to use the basic equipment, and will make films or videos both individually and in collaboration. Medium utilized will be determined by particular faculty interest.

Biology

CS 1. Models and Experiments

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Interplay between models and experimentation in the development of an understanding of the principles of biology.

CS 2. Laboratory Project

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Set up by the student in consultation with the instructor, and concluding with the student's report of progress.

CS 3. Reading Project

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Set up by the student in consultation with the instructor, and concluding with the student's report of progress.

CS 10. Biology Colloquium

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

Chemistry

CS 1. Major Unsolved Problems

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Study of some of the major unsolved problems in chemistry, with the aim of developing general experimental and theoretical approaches to these problems.

CS 2. Project

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Investigation of a specific problem in chemistry, set up in consultation with the instructor, and concluding with the student's report of progress.

CS 3. Seminar

(1-6) STAFF

Prerequisite: consent of instructor.

Presentation and critical discussion of topics in chemistry.

CS 4. General Chemistry Seminar

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Accelerated course in general chemistry.

CS 5. Physical Chemistry Seminar

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Accelerated course in elementary physical chemistry.

CS 6. Organic Chemistry

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Accelerated course in elementary organic chemistry.

CS 7. Organic Chemistry Laboratory

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Laboratory and discussion section on organic chemistry and spectroscopy, taken in conjunction with Chemistry 7B-C.

CS 10. Chemistry Colloquium

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

CS 15. Theoretical Chemistry Seminar

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Course in theoretical physical chemistry emphasizing quantum mechanics.

Literature

CS 1. Writing: Verse

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Practice in the writing of original verse.

CS 2. Writing: Narrative Prose

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Practice in the writing of fiction.

CS 3. Writing: Expository Prose

(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Practice in the writing of essays and criticism.

CS S. Literature Symposium
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

A continuing series of lectures, readings, and presentations by faculty, guest writers, and other professionals in the literary fields.

CS 10. Genres
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Emphasis on the development of literary forms, represented in the work of major authors, essential traditions. Exploration of ways genre directs and, discovered by a topic, takes individual shape. Intensive reading, substantial exposition.

CS 11. Literary Structure: Chronological
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Emphasis on periods and influences: intervals during which literary production especially corresponds with or responds to activity in the culture at large. Extensive reading and exposition.

CS 12. Literary Structure: Nonchronological
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Logical, analogical, cyclical, and repetitive schemes.

CS 13. Subjects and Materials
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Emphasis on style and content of literary texts: critical investigation of how matter and manner work together in serious literature. Extensive reading and exposition.

CS 14. Themes and Motifs
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Emphasis on structure and meaning in literary texts: analytic focus on principles of representation, and on recurrent features, in the literature studied. Extensive reading and exposition.

CS 15. Literature Colloquium
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

Mathematics

CS 1. Problem Solving
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Discussion and solution of nonroutine mathematical problems.

CS 2. Project
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Set up by the student in consultation with the instructor, and concluding with the student's report of progress.

CS 3. Topics in Modern Algebra
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Topics may include groups; modules; vector spaces; algebras; metric structures on vector spaces; representation theory; multilinear algebra; graded structures; universal properties; a survey of important algebraic structures.

CS S. Computer Applications
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Applications of the various campus computers and departmental microcomputers to problems in mathematics, biology, chemistry, and physics.

CS 10. Mathematics Colloquium
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

CS 20. Special Topics
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Lectures on a coherent body of mathematical topics which are not usually presented in standard mathematics courses.

CS 40. Introduction to Mathematical Problems
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Several nontrivial solved and unsolved mathematical problems are considered which require a minimal background. These include tiling and network problems, the solutions of which are ultimately useful in the natural sciences.

Music

CS 1. Composition
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Individual instruction in composition, usually for one hour per week.

CS 2. Analysis: Materials
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Small group instruction in theoretical subjects (harmony, composition, orchestrations, etc.).

CS 3. Analysis: Forms
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Small group instruction in musical forms and their development.

CS 4. Aural Disciplines
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Ear training, dictation, and sight singing.

CS S. Special Topics
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Individual or small group instruction in selected subjects (individual composers and their works, special compositional techniques, etc.).

CS 6. Computer Applications
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Applications of the various campus computers to problems in music.

CS 15. Music Colloquium
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

Physics

CS 1A. Newtonian Mechanics
(1-4) STAFF

Prerequisite: consent of instructor.

Vectors. Kinematics. Newton's laws of motion. Work and energy. Conservative forces. Momentum. Conservation of momentum. Center of mass motion. Collisions. Systems with variable mass.

CS 2A. Mechanics and Waves
(1-4) STAFF

Prerequisites: consent of instructor.

Oscillatory motion. Rotational motion. Angular momentum. Gravity and central force motion. Elastic waves.

CS 3A. Waves, Kinetic Theory, and Relativity
(1-4) STAFF

Prerequisite: consent of instructor.

Sound waves. Fluid dynamics. Kinetic theory of matter. The Maxwell-Botzmann distribution. Specific heat. Entropy. The special theory of relativity.

CS 4. Electromagnetism
(1-4) STAFF

Prerequisite: consent of instructor.

Electrostatics. DC circuits. Magnetostatics. Faraday's law of induction.

CS S. Electromagnetism and Optics
(1-4) STAFF

Prerequisite: consent of instructor.

Magnetic materials. AC circuits. Maxwell's equations. Electromagnetic waves. Ray optics. Wave optics. Kirchhoff diffraction theory.

CS 6. Quantum Physics
(1-4) STAFF

Prerequisite: consent of instructor.

Wave-particle duality. Photons. Matter waves. The uncertainty principle. The Schrodinger equation. Potential wells and barriers. The quantized simple harmonic oscillator. The hydrogen atom.

CS 10. Physics Colloquium
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Students receiving credit will present talks in their field on material arranged in consultation with the instructor. Credit assigned by the instructor will reflect the extent and quality of participation.

CS 15A. Introduction to Experimental Physics
(1-2) STAFF

Prerequisite: Physics CS 3 or consent of instructor.

Laboratory course focusing on using the experimental method to explore physical phenomena and to discover the specific mathematical laws describing them. Students are expected to carry out and interpret their own experiments. Three reports in the form of short papers are required. (F)

CS 1SB-C. Experimental Physics
(1-3) STAFF

Prerequisite: Physics CS 15A or consent of instructor.

Laboratory course focusing on the art and science of experimentation. Each student will design experiments to measure well-defined physical quantities, and build, borrow, and assemble the necessary apparatus. A research paper presenting the method, results, and conclusions, together with an oral presentation, will be required for each experiment.

CS 20. Laboratory Project
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Set up by the student in consultation with the instructor, and concluding with the student's report of progress.

CS 30. Reading Project
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Set up by the student in consultation with the instructor, and concluding with the student's report of progress.

CS 40. Special Topics
(1-6) STAFF

Prerequisite: consent of instructor. May be taken as often as once each quarter for credit.

Lectures on a coherent body of physical topics which are not usually presented in standard undergraduate physics courses.

College of Engineering

College of Engineering, Engineering I, Room 1016; Telephone (805) 893-3207
Undergraduate Office, Engineering I, Room 1030; Telephone (805) 893-2809
Minority Engineering Program, Building 698; Telephone (805) 893-4026

Dean: Venkatesh Narayanamurti
Associate Dean for Academic Affairs: Robert G. Rinker
Associate Dean for Graduate Programs and College Development: W. Henry Weinburg

The College of Engineering is the second largest undergraduate college at UCSB with an enrollment of approximately 1,100 undergraduate students and 550 graduate students. The college offers the Bachelor of Science degree and graduate degree programs in five disciplines: chemical engineering, computer science, electrical engineering, mechanical engineering, and nuclear engineering. A graduate degree program is also available in materials. The undergraduate programs in chemical, electrical, mechanical, and nuclear engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The computer science undergraduate programs are accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board.

A minimum of four years is generally necessary to complete the requirements for the Bachelor of Science degree. Completion of the four-year program provides students with the background to begin professional careers or to enter graduate programs in engineering or computer science, or professional schools of business, law, or medicine.

The Undergraduate Office in Engineering I, Room 1030, provides general counseling for all undergraduates in the college. Advisers for the individual majors are provided by the respective departments. The *College of Engineering Announcement*, which contains detailed information about the various programs and schedules, is published yearly and may be obtained by writing to the College of Engineering, Engineering I, Room 1030, University of California, Santa Barbara, California 93106-5130.

Admission

Applicants desiring to enter the College of Engineering must satisfy the general university admission requirements described in earlier sections of this catalog. The college strongly recommends that students who want to study engineering at UCSB plan their high school programs to include the following courses:

English	4 years
U.S. History	1 year
Algebra	2 years
Plane Geometry	1 year
Trigonometry	1/2 year
Physics or chemistry (preferably both)	1 year
Foreign Language	2 years

A high school student who is admitted to UCSB and is deficient in one or more of these prerequisites may be required to complete equivalent courses at UCSB. Students lacking these prerequisite high school courses may be delayed in entering the upper division and in graduating.

Any student who is admissible to the university may be accepted by the College of Engineering provided that the college does not have more qualified applicants than openings, in which case preference will be given to advanced-standing students who are ready to enter the upper division and to freshmen. Additionally, if the number of qualified applicants at either the junior or freshman levels exceeds the number of openings, admission to the College of Engineering may be based on further consideration of prior coursework, grades, test scores, and other factors.

Students entering the College of Engineering either as freshmen or as transfer students must be enrolled in a particular curriculum within the Department of Chemical and Nuclear Engineering, the Department of Computer Science, the Department of Electrical and Computer Engineering, or the Department of Mechanical and Environmental Engineering.

Entrance to the Upper Division

Admission to the lower division (freshman and sophomore years) does not necessarily guarantee advancement to the upper division (junior and senior year) at some later time.

Continuing students shall have completed substantially all of the lower-division requirements for the major they are pursuing. Students who have not done so should go to the undergraduate office to determine eligibility for upper-division work.

Transfer students shall have (1) satisfied the general requirements for admission to the university at the junior level for transfer students, and (2) substantially completed a lower-division engineering or computer science program of not fewer than 90 quarter-units or 60 semester-units. The program must include the subject requirements listed in the table "Subject Requirements for Entrance to the Upper Division."

(The university accepts a maximum of 105 quarter-units or 70 semester-units of credit for college courses completed at a two-year community college.)

Degree Requirements

To receive a Bachelor of Science degree from the College of Engineering, a student must meet two sets of requirements: university degree requirements and college degree requirements.

University Degree Requirements

All undergraduate students must satisfy university academic residency, Subject A, American History and Institutions, unit, and scholarship requirements. These requirements are described fully in the chapter "Undergraduate Education at UCSB."

College Undergraduate Degree Requirements

All undergraduate students must satisfy the preparation for the major, the major, the General Education, and scholarship requirements. Preparation for the major and the major requirements for each program offered by the College of Engineering are set forth in subsequent sections of this catalog.

General Education Requirements

The aims of the General Education Program in the College of Engineering are to provide a body of knowledge of general intellectual value that will give the student a broad cultural base and meet the objectives of the engineering profession. An appreciation and understanding of the humanities and social sciences are important in making engineers aware of their social responsibilities and enabling them to consider related factors in the decision-making process.

Students in the College of Engineering must complete the General Education requirements in order to qualify for graduation. These requirements may be met with courses satisfactorily completed on this campus or with equivalent courses completed at another accredited college or university. Once a student has matriculated at UCSB, the writing requirement may be met only with designated UCSB courses. Lists of courses satisfying the various General Education area requirements are available in the Undergraduate Office of the College of Engineering.

The General Education requirements for the College of Engineering include:

English 2-3 (Area A)	8 units
Social Sciences (Area D) and Civilization and Thought (Area E)	8-15 units
The Arts and Literature (Area F)	8-15 units

A total of 23 units is required from areas D, E, and F. At least 8 units must be from Areas D and E combined, with at least 4 of these units from Area E-1. At least 8 units must be completed in Area F, and at least 4 of them must be from F-2a or F-2b.

In the process of fulfilling the General Education area requirements, students must include the following:

1. At least four courses that require the writing of one or more papers totaling at least 1,800 words. (These courses are identified in the handout "General Education Requirements," available in the College of Engineering Undergraduate Office.)
2. At least two upper-division general education courses, from two separate departments, in each of which the student has already successfully completed one lower-division general education course.
3. One course that focuses on the history and cultural, intellectual, and social experience of racial minorities and/or other ethnic groups in the United States. Courses that meet this requirement are included in the General Education Requirements list available in the College of Engineering. The ethnicity requirement applies to all students who enter the College of Engineering as freshmen in fall of 1990 and thereafter. Students who began as freshmen in the College of Letters and Science in fall of 1989 and subsequently change to a College of Engineering major will be expected to fulfill this requirement. The effective date for transfer students was fall of 1992.

No more than two courses taken from the same department may be applied to the General Education requirement. The student should consult with the Office of Undergraduate Studies in the College of Engineering for additional information about General Education requirements.

Grade-Point Average Requirement

Students must maintain at least a 2.0 grade-point average in all courses taken in the overall major (including both lower- and upper-division classes), in all upper-division major courses, and in all work completed at the university. In addition, students who fail to earn a 2.0 grade-point average in either the preparation for the major or the major may, at the option of the department, be denied the privilege of continuing in the major. Individual departments may have higher grade-point average requirements.

Unit Requirement

The unit differences between the 180 units specified for the baccalaureate degree and the number of units specified for the preparation for the major, the major, and General Education are designated as free elective units. Students may choose from any course offering open to them to meet this requirement.

Subject Requirements for Entrance to the Upper Division

For Engineering Majors	**Minimum Number of Quarter-Units**
Analytic Geometry and Calculus (including differential equations)	24
Chemistry (for science and engineering students)	12
Physics (for science and engineering students)	16
Engineering*	8-16
Humanities-Social Sciences	8-12
English	4-8
Unspecified Subjects	6-14
TOTAL REQUIRED	90

*Course selections should include digital computer programming (FORTRAN), electric circuits and devices, and those courses that are specified for the lower-division requirements for the engineering major desired. Typical courses include statics, strength of materials, and computer organization.

For Computer Science Majors	**Minimum Number of Quarter-Units**
Analytic Geometry and Calculus	12
Differential Equations	4
Modern Algebra	4
Linear Algebra	4
Computer Programming (PASCAL)	4
Programming Methods	4
Foundations of Computer Science	4
Introduction to Computer Systems	4
Probability and Statistics (calculus and linear algebra based)	4
Physics (for science and engineering students)	12
Humanities-Social Sciences	8-12
English	4-8
Unspecified Subjects	18
TOTAL REQUIRED	90

College Board Advanced Placement Credit

Students may satisfy some of the requirements of the College of Engineering through the College Board Advanced Placement Tests. Credit for these tests is assigned as follows:

Computer Science

With a score of 3, 4, or 5 on Examination AB, equivalent credit will be granted for Computer Science 5PA. A score of 4 may be substituted for Computer Science 10 at the student's request by petition, and a score of 5 may be substituted (by petition) for both Computer Science 10 and 20. However, students with high scores may take Computer Science 10 and/or 20 for full credit.

English

With a score of 3, equivalent credit will be granted for the Subject A requirement (English 1). With a score of 4, equivalent credit will be granted for the Subject A requirement and English 2 (formerly English 2A). With a score of 5, equivalent credit will be granted for English 2 (formerly English 2A) and English 3 (formerly English 2B).

History

With a score of 3, 4, or 5 in American history, 8 units of credit toward graduation will be awarded, but no general education course credit is granted. If the score of 3, 4, or 5 is in European history, 8 units of general education course credit in Area E-2 will be granted. Advanced placement credit in American history will satisfy the American History and Institutions requirement.

Mathematics

With a score of 3, 4, or 5 on Examination AB, equivalent credit will be granted for Mathematics 3A. A score of 4 or 5 may be substituted by petition for Mathematics 3A and 3B at the student's request; however, students with scores of 4 or 5 may take Mathematics 3B for full credit. With a score of 3, 4, or 5 on Examination BC, equivalent credit will be granted for Mathematics 3A-B; students should enroll in Mathematics 3C.

Honors

The College of Engineering gives public recognition to its outstanding undergraduate students by awarding Dean's Honors at the end of each regular academic term to students who have earned a 3.5 grade-point average for the quarter and have completed a program of 12 or more graded units. (Grades of Incomplete or Not Passed automatically disqualify students for eligibility for Dean's Honors.) The Dean's Honors List is posted quarterly, and the award is noted quarterly on the student's permanent transcript.

Graduating students of the College of Engineering who have achieved distinguished scholarship while at the university may qualify for Honors, High Honors, or Highest Honors at graduation.

Minimal Progress Requirements

A student in the College of Engineering will be placed on academic probation if the total number of units passed at UCSB is fewer than 36 at the end of the third term of enrollment, 72 at the end of the sixth term of enrollment, 108 at the end of the ninth term, or 144 at the end of the twelfth term. At least three-fourths of the minimum number of academic units passed must include courses prescribed for the major.

The following courses may be counted toward the unit minimums: courses repeated to raise C-, D, or F grades; courses passed by examination; courses graded IP (In Progress); courses passed during summer session at UCSB or at another accredited college or university and transferred to UCSB.

Students must obtain the approval of the dean of engineering to deviate from these requirements. Approval normally will be granted only in the case of medical disability, severe personal problems, or accident.

Students enrolled in dual-degree programs or in individualized programs of study must submit their proposed programs of study to the dean of engineering for approval. The individual programs must contain comparable standards of minimal academic progress.

Change of Major and Change of College

Students planning to enter an engineering major or to change from one engineering major to another will be expected to complete at least 30 units at UCSB before petitioning for a change of major. Students normally must satisfy the prerequisites of the prospective department.

Students planning to enter the pre-computer science program must complete at least 16 units of pre-major coursework at UCSB, including 8 units in computer science, with at least a 3.0 grade-point average for all pre-major courses completed with the University of California. Students who have completed the entire computer science pre-major with at least a 2.75 University of California grade-point average will be admitted to full major standing upon petition whether or not they have been officially declared pre-majors. Petitions for changing to the pre-computer science or computer science majors may be filed any time upon meeting the above requirements.

Before petitioning for a change of major to chemical, nuclear, pre-electrical, or mechanical engineering, the following courses or their equivalents must be completed: Mathematics 3A-B; Chemistry 1A-AL, 1B-BL; Engineering 3; Physics 1.

Petitions for changing to an engineering major will be accepted only during the first four weeks of the spring quarter. Only a limited number of petitions will be approved, and selection for entry into the major will be based on UC grade-point averages and applicable courses completed.

Students who have completed more than 105 units will not be considered for a change of major in engineering or computer science unless they can demonstrate that they will be able to complete all the degree requirements for the proposed program without exceeding 195 total units.

Engineering Research Centers

Center for Risk Studies and Safety

Director: Theofanis G. Theofanous
Engineering Research Center (ERC); 6740 Cortona Drive, Goleta, CA 93117; telephone (805) 893-4932.

Center for Computational Sciences and Engineering

Director: John L. Bruno
Engineering I, Room 3111; telephone (805) 893-3221.

Center for Control Engineering and Computation

Co-Director: Petar V. Kokotovic
Co-Director: Alan J. Laub
Engineering I, Room 5119; telephone (805) 893-7011.

Center for High-Speed Image Processing

Acting Director: Hua Lee
Engineering Research Center (ERC)
6740 Cortona Drive, Goleta, CA 93117; telephone (805) 893-4480

Center for Information Processing Research

Director: Allen Gersho
Engineering I, Room 3162; telephone (805) 893-8555.

Center for Macromolecular Science and Engineering

Director: Glenn H. Fredrickson
Engineering II, Room 3329; telephone (805) 893-8308.

Compound Semiconductor Research Center

Director: Pierre M. Petroff
Engineering II, Room 1335; telephone (805) 893-8256.

High Performance Composites Center

Co-director: Anthony G. Evans
Co-director: Frederick Leckie
Engineering II, Room 1355E; telephone (805) 893-7161.

Ocean Engineering Laboratory

Director: Marshall P. Tulin
Engineering Research Center (ERC); 6740 Cortona Drive, Goleta, CA 93117; telephone (805) 893-4937.

National Research Centers

Center for Quantized Electronic Structures

Director: James L. Merz
Phelps Hall, Room 1413; telephone (805) 893-8600.

Materials Research Laboratory

Director: Anthony K. Cheetham
Engineering II, Room 1355; telephone (805) 893-7233

Optoelectronics Technology Center

Director: Larry A. Coldren
Engineering II, Room 1339; telephone (805) 893-7105

Chemical and Nuclear Engineering

Department of Chemical and Nuclear Engineering, Engineering II, Room 3355; Telephone (805) 893-3412
Chair: L. Gary Leal
Vice-Chair: Glenn E. Lucas

Faculty

Eray S. Aydil, Ph.D., University of Houston, Assistant Professor (*microelectronics materials processing*)

Sanjoy Banerjee, Ph.D., University of Waterloo, Professor (*transport processes, multiphase systems, process safety*)

Bradley Chmelka, Ph.D., UC Berkeley, Assistant Professor (*molecular sieves, oriented polymers, liquid crystals, nuclear magnetic resonance*)

Henri J. Fenech, Sc. D., Massachusetts Institute of Technology, Professor Emeritus

Glenn Fredrickson, Ph.D., Stanford University, Professor, Center for Macromolecular Science and Engineering Director (*block copolymers, polymeric phase transition, glass transition, composite media*)

Owen T. Hanna, Ph.D., Purdue University, Professor (*theoretical methods*)

* **Jacob Israelachvili**, Ph. D., University of Cambridge, Professor (*surface and interfacial phenomena, adhesion, colloidal systems, surface forces*)

* **Frederick F. Lange**, Ph.D., Pennsylvania State University, Professor (*processing, ceramics, microstructure, mechanical properties*)

L. Gary Leal, Ph.D., Stanford University, Professor (*fluid mechanics, polymer physics, rheology*)

* **Glenn E. Lucas**, Ph.D., Massachusetts Institute of Technology, Professor (*radiation damage to structural materials, mechanical and structural analysis of nuclear systems*)

Eric McFarland, Ph.D., Massachusetts Institute of Technology, M.D., Harvard Medical School, Assistant Professor (*nuclear magnetic resonance imaging, neutron tomography, medical imaging*)

Dimitrios Maroudas, Ph.D., Massachusetts Institute of Technology, Assistant Professor (*fault propagation in materials*)

Duncan A. Mellichamp, Ph.D., Purdue University, Professor (*process dynamics and control, digital computer control*)

John E. Myers, Ph.D., University of Michigan, Professor Emeritus

* **G. Robert Odette**, Ph.D., Massachusetts Institute of Technology, Professor (*radiation effects and materials technology for fission and fusion reactors*)

* **Dale Pearson**, Ph.D., Northwestern University, Professor (*relationship between polymer rheology and molecular structure, polymer processing*)

Edward Profio, Ph.D., Massachusetts Institute of Technology, Professor (*reactor physics, nuclear instrumentation, bionuclear engineering*)

Robert G. Rinker, Ph.D., California Institute of Technology, Professor (*chemical kinetics, reaction engineering, catalysis*)

Orville C. Sandall, Ph.D., UC Berkeley, Professor (*transport of mass, energy, and momentum; separation processes*)

Dale E. Seborg, Ph.D., Princeton University, Professor (*process dynamics and control, computer control*)

* **Paul Smith**, Ph.D., Rijks Universiteit Groningen, Professor (*polymers, polymer processing, phase behavior*)

Theofanis G. Theofanous, Ph.D., University of Minnesota, Professor, Center for Risk Studies and Safety Director (*nuclear and chemical plant safety, multiphase flow, thermal hydraulics*)

W. Henry Weinberg, Ph.D., UC Berkeley, Professor (*surface chemistry and physics*)

Joseph Zasadzinski, Ph.D., University of Minnesota, Associate Professor (*surface and interfacial phenomena, high resolution microscopy, biomaterials*)

* Joint appointment with the Department of Materials.

Affiliated Faculty

Philip Alan Pincus, Ph.D. (Materials)

The Department of Chemical and Nuclear Engineering offers the B.S., M.S., and Ph.D. degrees in chemical engineering, and the B.S. and M.S. degrees in nuclear engineering. A Ph.D. in chemical engineering with a nuclear specialization is also offered. The B.S. degrees in both chemical and nuclear engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

At the undergraduate level, emphasis is placed on a thorough background in the fundamental principles of science and engineering, strongly reinforced by laboratory courses in which students become familiar with the application of theory. At the graduate level, students are further required to demonstrate competence in conducting basic and applied research.

The B.S. degree in chemical engineering provides excellent preparation for work in chemical process design and development and in technical management, and for professional graduate degree programs. Nuclear engineering offers varied opportunities for rapid professional advancement and a chance to make significant contributions to the challenging problems of energy, environment, health, and society.

Students who complete a major in chemical or nuclear engineering may be eligible to pursue a California teaching credential. Interested students should consult the credential adviser in the Graduate School of Education as soon as possible.

Undergraduate counseling is provided under the direction of the assistant to the dean for undergraduate studies. A faculty member from each major is also available to help with academic program planning. Graduate students are assigned research advisers. Undergraduates in other majors who plan to change to a major in the Department of Chemical and Nuclear Engineering should consult the assistant to the dean for undergraduate studies for requirements.

Several publications are available from the department office describing the undergraduate and graduate programs.

Laboratory Facilities

1. **Alliant FX/8-8 multiprocessor computer.** The department maintains this computer for large-scale computations. In addition, local and global networks permit access to a wide array of on- and off-campus computational facilities.

2. **Real-time digital computing laboratory and the process dynamics and control laboratory.** These two facilities in chemical engineering contain a multi-user S/130 Eclipse digital computer for real-time and interactive graphics applications. An array of Sun, IBM PC/AT, and Macintosh workstations are also available. Laboratory-scale equipment is available for demonstrating liquid-level, heat-transfer, and gas-pressure surge systems. A fully instrumented pilot-scale distillation facility is used for advanced process and computer control research.

3. **Transport laboratories.** These facilities in chemical engineering contain well-instrumented equipment for studying heat, mass, and momentum transfer, as well as separation processes and thermodynamics. Some of the instruments include gas chromatographs, automatic titrimeters, pH meters, anemometers, digital integrators, potentiometers, mass flowmeters, pressure transducers, and microprocessors.

4. **Neutronics laboratory.** This laboratory in nuclear engineering includes the 200 KeV Cockroft-Walton accelerator, fast-spectrum sphere, and isotopic alpha, beta, gamma, and neutron radiation sources.

5. **Nuclear measurements laboratory.** This laboratory includes nuclear radiation detectors, multichannel analyzer, on-line computer terminal, and nuclear medicine facilities.

6. **Multiphase systems laboratory.** This laboratory includes facilities for major thermal hydraulic research for advanced reactor development. There are also facilities for studying transient thermal hydraulics, wave phenomena, and two-phase flow related to safety in the power and process industries. The laboratory recently acquired a state-of-the-art laser Doppler anemometer to measure three-dimensional velocity fields.

7. **Materials research facilities.** The department shares with the materials department extensive laboratory facilities for materials research. These include a materials characterization laboratory with seven electron microscopes, a metallography laboratory, X-ray instrumentation, mechanical testing laboratory with six instrumented test frames, and a high-temperature creep laboratory.

8. **Catalysis and surface chemistry laboratory.** This laboratory contains six sophisticated ultra high vacuum machines with the following experimental capabilities: atomic and molecular beam scattering, high-resolution electron energy loss spectroscopy, Fourier transform infrared reflection-absorption spectroscopy, quadrupole mass spectrometry, low-energy electron diffraction, Auger electron spectroscopy, X-ray and UV-photoelectron spectroscopies, and contact potential difference measurements.

9. **Interfacial sciences laboratories.** These two laboratories in chemical engineering contain state-of-the-art equipment necessary for detailed measurements of the forces and structures at fluid-fluid and fluid-solid interfaces. The instruments include four versions of the surface forces apparatus designed to measure the interactions between surfaces such as biomembranes, polymers, and crystalline solids across liquids such as water or oils. The newest variation of the instrument can be used to measure dynamic forces important to lubrication and friction at the molecular scale. These labs also include high vacuum freeze-fracture devices used to prepare liquid samples for the lab's transmission electron microscope. This lab is one of the few in any chemical engineering department that contains both the scanning tunneling and atomic force microscopes which can provide atomic resolution images of surfaces. The lab also includes an optical microscope with Nomarski optics, a high speed ultracentrifuge, and two Langmuir-Blodgett troughs for creating ordered monolayer assemblies.

10. **Kinetics and reaction engineering laboratory.** This laboratory contains five chemical reactor facilities which permit studies of fixed-bed or fluidized-bed reactor behavior for time-dependent or steady-state boundary conditions. Also, the kinetics of reactions on both heterogeneous and homogeneous catalysts are studied. Some of the instrumentation includes gas chromatographs; controllers for mass-flow, temperature, and pressure; data-acquisition and processing computers; and numerous online detectors using photoionization, thermal

conductivity, and infrared absorption techniques.

11. NMR laboratory. State-of-the-art facilities in nuclear magnetic resonance spectroscopy are available to support a wide range of materials and engineering investigations at a molecular level. The laboratory possesses a wide-bore 11.7 Tesla (500 MHz) solid-state NMR spectrometer, a narrow-bore 11.7 Tesla (500 MHz) liquid-state NMR spectrometer, and a wide-bore 4.2 Tesla (180 MHz) zero-field NMR instrument. Extensive support equipment exists for the performance of novel new experiments, such as Double Rotation, Multiple-Quantum, Zero-Field and Multidimensional Exchange NMR.

12. Polymer characterization facility. This laboratory is equipped with state-of-the-art facilities for molecular, rheological, and rheo-optical characterization of polymer melts, solutions, and gels. The rheological characterization equipment includes a Rheometrics Mechanical Spectrometer (RMS-800), a constant stress rheometer, and various capillary viscometers. The rheo-optical measurements are carried out on a Phase Modulated Flow Birefringence device. Static and dynamic light scattering is performed on a Brookhaven Laser Light Scattering Photometer. In addition, there is a wide range of facilities available for polymer synthesis and characterization which is shared with other laboratories. These include: Differential Scanning Calorimetry (DSC); Gel Permeation Chromatography (GC); Infrared Spectroscopy (IR and FTIR); and optical microscopy at elevated temperatures.

13. Fluid mechanics laboratory. This laboratory combines a series of unique experimental systems for investigation of viscous and viscoelastic flow phenomena involving polymer liquids, suspensions, and other microstructured fluids. These include birefringence dichroism; light scattering systems for polymeric liquids; a computer-controlled four-roll mill for studies of drop breakup, coalescence, and particle dynamics; laser doppler velocimetry applied to suspensions and multiphase liquids; and a series of flow devices for studies of chaotic advection.

Undergraduate Program

Courses required for the pre-major or major, inside or outside of the Department of Chemical and Nuclear Engineering, cannot be taken for the passed/not passed grading option. They must be taken for letter grades.

Bachelor of Science, Chemical Engineering

Preparation for the major

Students should plan to meet the General Education requirements common to all engineering programs. A total of 101 lower-division units is required, of which 70 are specified for the major: Engineering 3, Chemical Engineering 10 and 110A-B, Chemistry 1A-B-C and 1AL-BL-CL, ECE 6A-B, Mathematics 3A-B-C and 5A-B-C, and Physics 1,2,3,4, and 3L, 4L.

Upper-division major

A total of 79 units is required, of which 72 upper-division units are specified: Chemical Engineering 120A-B-C, 128, 130A, 140A-B, 152A-B, 180A-B, 181, and 182; Chemistry 113B-C and 130A-B; Nuclear Engineering 180; and Mechanical Engineering 180L. Three units of technical electives, 3 units of chemical engineering electives, and 6 units of chemistry electives are also required; lists of approved electives are available in the department office. Transfer students who have completed most of the lower-division courses listed above and are entering the junior year of the chemical engineering program may take Chemical Engineering 10 concurrently with Chemical Engineering 120A in the fall quarter.

Cooperative Program, Chemical Engineering and Chemistry

Chemical engineering students with a strong interest in chemistry are advised to consider a five-year program leading to a B.S. degree in both chemical engineering and chemistry. Details of the program are available from the Department of Chemical and Nuclear Engineering or the Department of Chemistry. Other double majors can be arranged on an individual basis in areas such as chemical engineering and biological sciences or chemical engineering and nuclear engineering.

Bachelor of Science, Nuclear Engineering

Preparation for the major

In addition to the General Education requirements common to all engineering programs, 67 lower-division units are required: Engineering 3, Nuclear Engineering 10 and 112, Chemistry 1A-B-C and 1AL-BL-CL, Mathematics 3A-B-C and 5A-B-C, ECE 6A-B, and Physics 1,2,3,4, and 3L, 4L. Transfer students who have completed the majority of lower-division courses will be accepted into the program as juniors. Freshmen are encouraged to take Nuclear Engineering 1.

Upper-division major

A total of 82 units is required, of which 49 units are specified: Nuclear Engineering 111, 116, 121, 122, 125, 130A-B, 140A-B, 144, 145, 150 and 180; and Mechanical Engineering 180L; and Chemical Engineering 120A-B. Eighteen units of technical electives are also required; a list of approved electives is available in the department office, and a coordinated program of electives must be worked out with the undergraduate advisor. At least 15 units of free electives are required to bring the total units to 180.

Cooperative Program, Nuclear Engineering and Physics

Nuclear engineering students with a strong interest in physics are advised to consider a five-year program leading to a B.S. degree in nuclear engineering and a B.A. or B.S. degree in physics. Students may obtain details of the program from the Department of Chemical and Nuclear Engineering or the Department of Physics.

Graduate Program

Master of Science, Chemical and Nuclear Engineering

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Admission

Acceptance for admission to the M.S. program is subject to the requirements of the Graduate Division. It is expected that most applicants for the M.S. degree in chemical engineering will have obtained undergraduate degrees in chemical engineering. However, students with degrees in other branches of engineering or in science may be accepted with the provision that they take such undergraduate courses as prescribed by the department as prerequisites for graduate work.

Many applicants for the M.S. degree in nuclear engineering will have obtained undergraduate degrees in nuclear engineering. However, students with degrees in other branches of engineering or in science have pursued graduate work in nuclear engineering. Such students may be accepted with the provision that they take designated undergraduate courses in conjunction with their graduate work.

Degree Requirements

Two plans are available for the M.S. degree in both chemical and nuclear engineering. Most students will follow Plan 1, although students with special backgrounds or requirements will be permitted, at the option of the department, to follow Plan 2. Knowledge of a foreign language is not required.

Plan 1. Thirty units of course credit are required, of which approximately half must be chosen from graduate-level courses in chemical or nuclear engineering. The remaining units may be chosen from upper-division or graduate-level courses in chemical or nuclear engineering or other branches of engineering or science, as approved by the department. In addition to meeting the course requirements, each student is expected to pursue a research project, either theoretical or experimental, and to describe the results of the research in a thesis. The student must present and defend the thesis in an oral examination.

Plan 2. Forty-two units of course credit, of which approximately two-thirds must be chosen from graduate-level courses in chemical or nuclear engineering. The remainder may be chosen on the same basis as outlined in Plan 1. Only students who have had adequate research experience prior to beginning graduate work, or who plan to continue in doctoral work at UCSB, will be permitted to follow Plan 2. Plan 2 candidates must pass an oral examination based on subjects studied in the graduate courses.

Doctor of Philosophy, Chemical Engineering

Admission

Admission requirements are the same as for the degree of Master of Science.

Degree Requirements

The student will be expected to plan and secure approval of a program of courses in chemical engineering and related fields which will provide a depth of understanding in the principal areas of chemical engineering. A Ph.D. program with emphasis in nuclear engineering and related fields may also be pursued.

Prior to being admitted to candidacy for the Ph.D., the student will be evaluated on the basis of performance in three areas: (1) an examination to test knowledge at the undergraduate and graduate levels in the core areas of chemical engineering, (2) coursework in specified graduate-level core courses, and (3) a candidacy exam which will review the candidate's progress in research. The general knowledge exam will be administered in the spring of the entering year and the candidacy exam must be completed before the end of the spring term of the second year in residence.

Students specializing in nuclear engineering will be admitted to the Ph.D. program according to a similar set of procedures, as modified by the Graduate Affairs Committee to account for differences in disciplines and emphases.

Each student is expected to pursue a research project, either theoretical or experimental, and to describe the results of the research in a dissertation. The student must present and defend the dissertation in an oral examination. The period of time between advancement to candidacy and completion of the final oral examination is expected to be approximately three years.

Chemical Engineering Courses

LOWER DIVISION

Engineering 3. Computer Solutions of Engineering and Science Problems

(3) STAFF

Prerequisites: Mathematics 3A, can be taken concurrently. Limited to lower-division majors in engineering or consent of instructor; not open to students who have completed Computer Science 5FO.

Application of computers to engineering and scientific problems. Provides working knowledge of FORTRAN language programming, using a structured FORTRAN compiler. Students will use the computer. (F)

10. Introduction to Chemical Engineering

(3) ZASADZINSKI

Prerequisites: Chemistry 1A-B-C; Mathematics 3A-B-C; Engineering 3, Computer Science 5FO, or equivalent.

Elementary principles of chemical engineering. The major topics discussed include material and energy balances, stoichiometry, and thermodynamics.

UPPER DIVISION

Engineering 100. Engineering Economic Analysis

(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor.

Engineering feasibility factors and engineering economic analysis. Analysis of alternatives and estimates of demands and costs in engineering.

Engineering 101. Ethics in Engineering

(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor.

The nature of moral value, normative judgment, and moral reasoning. Theories of moral value. The engineer's role in society. Ethics in professional practice. Safety, risk, responsibility. Morality and career choice. Code of ethics. Case studies will facilitate the comprehension of the concepts introduced.

Engineering 103. Technical Writing

(3) STAFF

Prerequisite: upper-division standing in College of Engineering or consent of instructor.

Emphasis on planning and writing the kinds of engineering documents that engineers will encounter in the world of work; documents include reports, proposals, professional papers, specifications, and oral technical presentations.

110A-B. Chemical Engineering Thermodynamics

(3-3) HANNA, FREDRICKSON

Prerequisite: Mathematics 5A.

The first and second laws of thermodynamics are used to predict changes of state in frictional processes. Volumetric and phase behavior of real gases and liquids in multicomponent systems is studied. Consideration is given to chemical equilibrium in reacting systems.

120A-B-C. Transport Processes

(4-3-3) THEOFANOUS, ZASADZINSKI, SANDALL

Prerequisites: Mathematics 5A-B-C; Physics 4.

Principles and applications of fluid mechanics, heat transfer, and mass transfer in determining rates of transport processes.

124. Advanced Topics in Transport Phenomena/Safety in Chemical Engineering

(3) THEOFANOUS

Prerequisites: Chemical Engineering 120A-B-C.

Runaway reactions, emergency relief, containment concepts, environmental effects. Causes and effects of explosions. Toxic wastes, reprocessing, transportation, disposal. Intended to be a follow-up to the transport series (120A-B-C).

128. Equilibrium Stage Processes

(3) SANDALL

Prerequisites: Chemical Engineering 10, 110A.

Basic principles and design techniques of equilibrium-stage separation processes. Emphasis is placed on binary distillation, liquid-liquid extraction, and multicomponent distillation.

130A-B-C-D. Theoretical Methods in Chemical and Nuclear Engineering

(3-3-3-3) HANNA

Prerequisites: Mathematics 5A-B-C.

Coordination and extension of previous work in chemical and nuclear engineering using advanced theoretical methods.

140A-B. Chemical Reaction Engineering

(3-3) RINKER

Prerequisites: Chemical Engineering 110A-B; 120A-B-C.

Kinetics of homogeneous and heterogeneous reacting systems, with and without catalysis, and its use in predicting chemical conversion in flow and nonflow reactors. Emphasis is placed on the behavior and design considerations of packed-bed reactors.

146. Heterogeneous Catalysis

(3) STAFF

Prerequisite: consent of instructor.

Concepts and definitions. Physical and chemical methods of catalyst characterization. Absorption, desorption, and surface reaction on well-defined surfaces. Thermodynamic and kinetic treatments of overall reactions on uniform and nonuniform surfaces. Correlations and theoretical approaches in chemical engineering catalysis.

152A. Introduction to Process Dynamics and Control

(3) MELLICHAMP, SEBORG

Prerequisite: Chemical Engineering 120A-B.

Modeling of physical and chemical processes, introduction to time domain analysis, classical feedback control methodology with emphasis on single-input, single-output systems, computer-aided design, and computer simulation of control systems.

152B. Process Dynamics and Control

(3) MELLICHAMP, SEBORG

Prerequisite: Chemical Engineering 152A.

Frequency domain design and analysis, feed forward and multivariable control, supervisory control. Laboratory experiments deal with dynamics of experimental processes, conventional feedback control, digital feed forward/feedback control, self-tuning control.

154. Computer Control

(3) MELLICHAMP, SEBORG

Prerequisites: Chemical Engineering 152A-B and consent of instructor.

Introduction to control computer hardware and software, analysis of sampled-data systems, design of digital control algorithms, implementation of computer control. Course includes two special projects involving industrial/laboratory control computers.

155. Real-Time Computing

(4) MELLICHAMP

Prerequisites: Chemical Engineering 120A-B and consent of instructor.

Introduction to digital computer arithmetic, logic, hardware with emphasis on interfacing with external processes; process input/output; real-time software; multitask programming; laboratory applications to typical chemical and thermal processes.

160. Introduction to Polymer Science

(3) PEARSON

Prerequisite: consent of instructor.

An introductory course that covers synthesis, characterization, structure, and mechanical properties of polymers. The course is taught from a materials viewpoint and includes discussions of polymerization reactions, molecular weight measurements, polymer processing, and how polymers are selected for a particular application.

171. Introduction to Biochemical Engineering

(3) STAFF

Prerequisites: Chemical Engineering 120 and 140, or consent of instructor.

An introduction to biochemical engineering covering enzyme and microbial growth kinetics with emphasis on the application of chemical engineering principles to the design and operation of industrial microbial processes.

180A-B. Chemical Engineering Laboratory

(3-3) STAFF

Prerequisites: Chemical Engineering 110A-B; 120A-B-C; also Chemical Engineering 140A-B for 180B

Experiments in thermodynamics, fluid mechanics, heat transfer, mass transfer, reactor kinetics, and chemical processing. Experimental design, analysis of results, and preparation of reports.

181. Cost Principles for Chemical Processes

(2) STAFF

Prerequisites: Chemical Engineering 120A-B-C and 140A. Not open to students who have received credit for Engineering 100. May be repeated for a maximum of 4 units.

Engineering economic analysis. Cost estimation. Interest and investment costs. Profitability. Uncertainty and risk.

182. Design and Cost Principles of Chemical Processes

(4) STAFF

Prerequisites: Chemical Engineering 110A-B; 120A-B-C; 140A-B.

The use of chemical engineering cost principles in solving comprehensive problems in the design of a chemical process.

194. Group Studies for Advanced Students
(1-4) STAFF
Prerequisite: consent of instructor. Check with department for quarters offered.

Group studies intended for small number of advanced students who share an interest in a topic not included in the regular departmental curriculum.

196. Undergraduate Research
(2-4) STAFF
Prerequisite: students must: (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have consent of the instructor. May be repeated for up to 12 units. Not more than four units may be applied to departmental electives.

Research opportunities for undergraduate students. Students will be expected to give regular oral presentations, actively participate in a weekly seminar, and prepare at least one written report on their research.

198. Independent Studies in Chemical Engineering
(1-5) STAFF
Prerequisites: consent of instructor. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade point average for the preceding three quarters; (3) have completed at least two upper-division courses in chemical engineering. No more than 3 units may be used as technical electives, and may not be used as chemical engineering electives. May be repeated up to twelve units. Students are limited to five units per quarter and 30 units total in all 198/199 courses combined.

Directed individual studies.

GRADUATE COURSES

210. Advanced Thermodynamics
(3) ISRAELACHVILI
Prerequisite: consent of instructor.

Review of first and second laws, real gases, solutions and solubilities, phase and chemical equilibria, and time permitting, thermodynamics of aggregation and self-associating systems.

214. Statistical Thermodynamics
(3) WEINBERG
Prerequisites: physical chemistry and consent of instructor.

Ensembles and statistical mechanical formulation of the laws of thermodynamics. Classical statistical mechanics; quantum statistics; translational, rotational, vibrational, and electronic partition functions. Chemical equilibria. Real gases and distribution functions; other interacting systems; liquids and solids.

215. Molecular Hydrodynamics
(3) FREDRICKSON
Prerequisite: consent of instructor.

This course will focus on the molecular origins of macroscopic hydrodynamic behavior, as derived from classical statistical mechanics. Topics include: kinetic theory, time correlation functions, linear response theory, brownian motion, projection operator methods, and generalized hydrodynamics.

220A-B. Advanced Transport Processes-Laminar Flow and Heat Transfer
(3-3) LEAL
Prerequisite: consent of instructor. Same courses as Nuclear Engineering 220A-B.

Basic principles, unidirectional flows, creeping flows, asymptotic perturbation methods, convective heat transfer, boundary-layer theory, natural convection, interfacial hydrodynamic stability.

220C. Advanced Transport Processes-Mass Transfer
(3) SANDALL
Prerequisite: consent of instructor. Same course as Nuclear Engineering 220C.

Basic principles of diffusional processes, multicomponent systems, diffusion with chemical reaction penetration and surface renewal theories, turbulent transport.

222A. Colloids and Interfaces I
(3) ISRAELACHVILI
Prerequisite: consent of instructor. Same course as Materials 222A.

Introduction to the various intermolecular interactions in solutions and in colloidal systems: Van der Waals, electrostatic, hydrophobic, solvation, H-bonding. Introduction to colloidal systems: particles, micelles, polymers, etc. Surfaces: wetting, contact angles, surface tension, etc.

222B. Colloids and Interfaces II
(3) ZASADZINSKI
Prerequisite: consent of instructor. Materials 222A or Chemical Engineering 222A recommended. Same course as Materials 222B.

Continuation of 222A. Interparticle interaction, coagulation, flocculation, DLVO theory, steric interactions, polymer-coated surfaces, polymers in solution, viscosity in thin liquid films. Surfactant self-assembly: micelles, micro-emulsions, lamellar phases, etc. Surfactants in surfaces: Langmuir-Blodgett films, adsorption, adhesion.

222C. Colloids and Interfaces III
(3) ISRAELACHVILI
Prerequisites: Chemical Engineering 222B or Materials 222B. Consent of instructor. Same course as Materials 222C.

The course builds on 222A and 222B focusing on the self-assembly of surfactants and polymers into aggregated structures and the interactions between these structures. The shear and rheological properties in films or molecular dimensions will also be covered.

223. Macromolecular Solids
(3) SMITH
Prerequisite: consent of instructor. Same course as Materials 223.

Amorphous polymers. The glassy state and the transition. Rubbers and rubber elasticity. Crystalline polymers. Nucleation, crystallization, and melting. Morphology and the relations between structure and properties.

230A-B-C. Advanced Theoretical Methods in Chemical and Nuclear Engineering
(3-3-3) STAFF
Prerequisite: consent of instructor.

Complex variables, asymptotic expansions, local and global methods for ordinary differential equations. Linear operations, partial differential equations. Matrices, numerical methods—finite difference, finite element and spectral.

238A-B. Rheology of Polymeric Liquids
(3) PEARSON
Same course as Materials 238A-B.

A study of the viscoelastic properties of polymer solutions, melts, networks, and colloidal suspensions. Emphasis is placed on experimental techniques to determine rheological behavior, on models that relate mechanical properties to molecular structure, and on analysis of polymer processing operations.

240A-B. Advanced Chemical Reactor Design
(3-3) RINKER
Prerequisite: consent of instructor.

Following review of the theory of reaction kinetics for catalyzed and noncatalyzed systems, detailed consideration is given to design and performance of chemical reactors. Mathematical studies of stability and optimization are emphasized in relationship to mass, energy, and momentum transport.

246. Advanced Catalysis
(3) WEINBERG
Prerequisite: consent of instructor.

Theories of reaction rates. Heterogeneous catalysis, including physical structure and characterization of catalysts. Catalyst poisoning. Combustion. Fluidized bed reactors. Statistical estimation of kinetic parameters. Stability of chemical reactors.

247. Polymer Processing
(3) SMITH
Prerequisites: Chemical Engineering 223 and consent of instructor. Students who have taken Nuclear Engineering 247 may not receive credit for this course. Same course as Materials 233.

The technology of processing polymers into useful objects. Fiber spinning, film blowing, polymer foams, injection molding, extrusion and mixing, film casting, thermo forming. Drawing, uniaxial, and biaxial. High-performance polymer materials.

250. Advanced Process Dynamics
(3) MELLICHAMP
Prerequisite: consent of instructor.

Analysis of unsteady state chemical processes with emphasis on multivariable systems, state variable techniques, model reduction, modal analysis and control, and optimal structure of feedback systems.

252. Advanced Process Control
(3) SEBORG
Prerequisite: Chemical Engineering 250 or consent of instructor.

Advanced topics in process control with emphasis on model-based control strategies such as predictive control and adaptive control.

256. Seminar in Process Control
(3) STAFF
Prerequisites: Chemical Engineering 250 and 252, or equivalent.

Selected research topics in process control such as predictive control, parameter estimation and adaptive control, robustness analyses, computational and computer design, and methodology.

281A. Static and Dynamic Properties of Macromolecules I
(3) PINCUS
Prerequisite: consent of instructor. Same course as Materials 281A. Not open for credit to students who have completed Nuclear Engineering 281A.

Polymerization; dilute and semidilute linear polymer solutions; bulk polymers and blends; co-polymers; characterization methods.

281B. Static and Dynamic Properties of Macromolecules II
(3) PINCUS
Prerequisite: consent of instructor, Chemical Engineering 281A or Materials 281A. Same course as Materials 281B.

Phase equilibrium and transitions; functionalized polymers: liquid crystals, polymer amphiphiles, associating polymers, polypeptides, etc.; solution dynamics; introduction to polymer rheology.

281C. Static and Dynamic Properties of Macromolecules III
(3) PINCUS
Prerequisites: consent of instructor, Chemical Engineering 281B, or Materials 281B. Same course as Materials 281C.

Phase equilibrium and transitions; functionalized polymers: liquid crystals, polymer amphiphiles, associating polymers, polypeptides, etc.; solution dynamics; introduction to polymer rheology.

290. Seminar
(1/2) LEAL
May be repeated for credit.

Seminar featuring guest speakers and graduate students on topics of current research interest.

594. Special Topics
(1-4) STAFF

Special seminar on research subjects of current interest.

596. Directed Reading and Research
(2-4) STAFF

A written proposal for each tutorial must be approved by the department chair.

598. Master's Thesis Research and Preparation
(1-12) STAFF
Not applicable to course requirement for M.S. degree.

Only for research underlying the thesis and writing the thesis.

599. Dissertation Research and Preparation
(1-12) STAFF

Only for research underlying the dissertation and writing the dissertation.

Nuclear Engineering Courses

LOWER DIVISION

Engineering 3. Computer Solutions of Engineering and Science Problems

(3) STAFF

Prerequisites: Mathematics 3A, can be taken concurrently. Limited to lower-division majors in engineering or consent of instructor; not open to students who have completed Computer Science 5FO.

Application of computers to engineering and scientific problems. Provides working knowledge of FORTRAN language programming, using a structured FORTRAN compiler. Students will use the computer. (F)

1. Nuclear Engineering Seminar

(1) STAFF

Overview of nuclear engineering including: sources of nuclear energy (fission, fusion, radioactive decay), nuclear power production (fission, fusion), nuclear medicine, reactor safety, waste management.

10. Modern and Nuclear Physics

(3) ODETTE

Introduction to quantum mechanics; atomic structure, ionization, excitation; nuclear models; nuclear reactions and cross sections; radioactive decay.

UPPER DIVISION

Engineering 100. Engineering Economic Analysis

(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor.

Engineering feasibility factors and engineering economic analysis. Analysis of alternatives and estimates of demands and costs in engineering.

Engineering 101. Ethics in Engineering

(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor.

The nature of moral value, normative judgment, and moral reasoning. Theories of moral value. The engineer's role in society. Ethics in professional practice. Safety, risk, responsibility. Morality and career choice. Code of ethics. Case studies will facilitate the comprehension of the concepts introduced. (S)

Engineering 103. Technical Writing

(3) STAFF

Prerequisite: upper-division standing in College of Engineering or consent of instructor.

Emphasis on planning and writing the kinds of engineering documents that engineers will encounter in the world of work; documents include reports, proposals, professional papers, specifications, and oral technical presentations.

105. Physical Principles of Medical Imaging

(3) MCFARLAND

Prerequisites: Nuclear Engineering 111 and consent of instructor.

Principles of imaging methods using ionizing and nonionizing radiation and ultrasound. Emphasis is placed on the fundamental physics and mathematics involved in image formation including basic interactions, data acquisition and reconstruction; includes planar imaging, multidimensional tomography (CAT, PET, NMR, SPECT).

111. Isotopes and Applied Radiation

(3) MCFARLAND

Prerequisite: Physics 4.

Radioactive and machine sources of radiation. Interactions of radiation with matter. Chemical and biological effects. Detection and dosimetry.

112. Principles of Nuclear Energy Conversion

(3) FREDRICKSON

Prerequisites: Chemistry 1C, Mathematics 3C.

Thermodynamic principles and laws with emphasis on applications to the problems of nuclear engineering. Relations of macroscopic and microscopic approaches discussed along with some results from statistical mechanics.

116. Nuclear Materials and Radiation Effects

(3) LUCAS

Prerequisite: Nuclear Engineering 180.

Application of fundamental principles of nuclear physics and materials science to nuclear technology. Materials for nuclear applications and radiation effects.

121. Nuclear Measurements Laboratory

(3) PROFIO

Prerequisite: Physics 4; Nuclear Engineering 111 recommended.

Nuclear electronics and measurements of nuclear radiations. Topics include: radiation protection and dosimetry, radioactive decay, counting statistics, range of charged particles, gamma ray and neutron attenuation and scattering, pulse and dc nuclear electronics and detectors.

122. Nuclear Safety and Environmental Impact

(3) THEOFANOUS

Prerequisites: Nuclear Engineering 130A-B; Nuclear Engineering 111 recommended.

Radiological safety and environmental impact. Dispersion of radioactivity in the environment. Reactor safety analysis including effects of transients and loss of coolant.

124A-B. Biomedical Engineering I-II

(4-4) PROFIO

Prerequisite: upper-division standing in engineering or physics.

Engineering applied to medicine. Basic physiology, transducers and systems. Medical terminology. Biomaterials. Thermal and electrical applications. Diagnostic and therapeutic radiology and nuclear medicine. Radiation protection. Laser medicine and surgery. Ultrasound, nuclear magnetic resonance, other diagnostic techniques. Computers in medicine.

125. Neutronics Laboratory

(4) PROFIO

Prerequisites: Nuclear Engineering 140A-B recommended.

Measurements of neutronic behavior, investigating neutron diffusion, kinetics, operation of the 14 MeV neutron generator, heat transfer, and nuclear materials.

130A-B. Nuclear Systems Engineering and Design

(3-3) STAFF

Prerequisite: Nuclear Engineering 144.

Nuclear power cycles. Heat removal and fluid flow in nuclear reactor core. Power and temperature distribution in core. Thermal stresses and fatigue in components. Nuclear fuel elements design and performance. Flow-induced vibrators. Various reactor concepts.

140A-B. Nuclear Systems Theory

(3-3) STAFF

Prerequisite: Nuclear Engineering 144.

The fundamental physical principles underlying the operation of a nuclear reactor in the framework of the diffusion theory of neutrons.

144. Theoretical Methods in Reactor Analysis

(3) STAFF

Prerequisite: Mathematics 5C.

Discussion of neutron diffusion in various reactor geometries. Time-dependent treatment of reactors. Multi-group and finite-difference descriptions. Numerical criticality search. Solving nuclear engineering problems via Monte Carlo.

145. Mathematical Methods in Nuclear Engineering

(3) STAFF

Prerequisite: Nuclear Engineering 144.

Derivation and classification of the time-dependent neutron diffusion equation. Analytical methods for the solution of the diffusion equation. The mathematical and physical interpretation of the eigenvalue problem in reactor physics. Numerical techniques for the solution of the diffusion equation with variable coefficients. Inner and outer iteration. Student use of prepared computer modules required.

150. Nuclear Power Systems Design

(4) STAFF

Prerequisite: see instructor.

A team of qualified students works together to design and optimize a specified nuclear power system. Basic principles and up-to-date computer codes are used to demonstrate the interplay between safety-economics-reliability.

160. Principles of Controlled Thermonuclear Reactors

(3) STAFF

Prerequisite: senior standing in engineering or physical sciences, or consent of instructor.

Fundamentals of controlled thermonuclear fusion reactor technology. Fusion reactions. Elementary plasma theory. Heating and confinement of thermonuclear plasmas. Vacuum and magnet technology. Conceptual designs of reactors, energy conversion methods, blanket neutronics, and tritium breeding. Materials problems.

180. Introduction to Materials

(3) STAFF

Prerequisite: upper-division standing in engineering. Same course as ME 180.

Introduction to the structure and properties of engineering materials and the principles underlying structure-property relationships. Crystal structure, defects, phase equilibria, diffusion and phase transformation kinetics, mechanical behavior and strengthening mechanisms, and the effects of processing and environment on structure and properties.

193A-B-C. Internship in Industry

(1-3) STAFF

Prerequisites: prior approval of department. Not more than 3 units may be used as departmental electives. May be repeated to a maximum of 6 units; maximum of 3 units for credit in major. An in-progress grade will be assigned to 193A and 193B. Final grades will be assigned upon completion of 193C. Students may enroll in 193C without taking 193B.

Special projects for selected students. Offered in conjunction with engineering practice in selected industrial and research firms under direct faculty supervision.

193D. Internship in Industry

(1-3) STAFF

Prerequisites: prior approval of department. Not more than 3 units may be used as departmental electives. Course may be repeated to a maximum of 3 units. Student should enroll in this course if internship will be completed in one quarter.

Special projects for selected students. Offered in conjunction with engineering practice in selected industrial and research firms under direct faculty supervision.

194. Group Studies for Advanced Students

(1-4) STAFF

Prerequisite: consent of instructor. Check with department for quarters offered.

Group studies intended for small number of advanced students who share an interest in a topic not included in the regular departmental curriculum.

196. Undergraduate Research

(2-4) STAFF

Prerequisite: Students must: (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have consent of the instructor. May be repeated for up to 12 units. Not more than 4 units may be applied to departmental electives.

Research opportunities for undergraduate students. Students will be expected to give regular oral presentations, actively participate in a weekly seminar, and prepare at least one written report on their research.

198. Independent Studies in Nuclear Engineering
(1-5) STAFF

Prerequisites: consent of faculty. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in nuclear engineering. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual study under a faculty supervisor. This course gives an opportunity to qualified senior students to pursue or initiate some independent experimental or theoretical research.

GRADUATE COURSES

205. Physical Principles of Medical Imaging
(3) MCFARLAND

Prerequisite: consent of instructor. Same course as ECE 275.

Principles of imaging methods using ionizing and nonionizing radiation and ultrasound. Emphasis is placed on the fundamental physics and mathematics involved in image formation including basic interactions, data acquisition and reconstruction; includes planar imaging, multidimensional tomography (CAT, PET, NMR, SPECT).

206. Principles of Magnetic Fusion Power
(3) STAFF

Prerequisite: background in engineering or physical sciences.

The physical principles of magnetic and inertial confinement of thermonuclear plasmas. Reaction physics, plasma properties, energy balances, confinement equilibria and stability, charged particle motion, and energy transport. Tokamak, mirror, and inertial confinement schemes. Fusion powerplant technology.

216. Seminar in Materials Research
(2) ODETTE, LUCAS

Prerequisite: consent of instructor. May be repeated.

Seminars on research topics of current interest in the areas of micro-mechanics of materials phase transformation, irradiation, thermal and chemical effects, and experimental techniques on materials science. Student participation in presentations.

217. Radiation Effects in Materials
(4) LUCAS

Prerequisites: Nuclear Engineering 180 or 116. Consent of instructor. Same course as Materials 272.

Review of field of radiation damage to structural materials used in fission and fusion power systems. Fundamental theoretical basis of radiation damage models, experimental data base, and methods of predicting damage to engineering structures are required.

218. Nuclear Fuel Materials Engineering
(4) LUCAS

Prerequisite: Nuclear Engineering 10, 116, 130A-B, 180, or equivalent, or consent of instructor.

Subjects will include the following: 1) nuclear fuel types; 2) properties of fuel and cladding materials; 3) behavior of fuel materials during steady state and abnormal operations; 4) fabrication processes of some selected fuels; 5) fuel design.

219A. Ceramic Processing
(3) LANGE

Prerequisite: consent of instructor. Same course as Materials 251A.

Processing of ceramics: glass-ceramics, gelation, and powder methods. Powder methods will be emphasized from powder manufacture through consolidation of shape, with introduction to densification. Colloidal routes to powder preparation and consolidation.

219B. Densification and Microstructural Control
(3) LANGE

Prerequisite: consent of instructor. Same course as Materials 251B.

Mass transport and kinetic sintering theories. Thermodynamics of pore phase disappearance. Grain growth during densification. Effects of a liquid phase (liquid phase sintering). Effects of inert phases on densification. Effects of applied pressure. Control of grain growth after densification.

220A-B. Advanced Transport Processes-Laminar Flow and Heat Transfer
(3-3) LEAL

Prerequisite: consent of instructor. Same courses as Chemical Engineering 220A-B.

Basic principles, unidirectional flows, creeping flows, asymptotic perturbation methods, convective heat transfer, boundary-layer theory, natural convection, interfacial hydrodynamic stability.

220C. Advanced Transport Processes-Mass Transfer
(3) SANDALL

Prerequisite: consent of instructor. Same course as Chemical Engineering 220C.

Basic principles of diffusional processes, multicomponent systems, diffusion with chemical reaction penetration and surface renewal theories, turbulent transport.

221. Defects in Materials
(3) STAFF

Prerequisite: consent of instructor. Same course as ECE 216A and Materials 216A.

Defects in materials: crystal structure and atomic bonding in crystals. Point defects and diffusion. Dislocation theory in cubic and hexagonal metals. Dislocations. Point defect interactions. Planar defects, grain boundaries in metals.

222. Topics in Nuclear Safety
(4) BANERJEE

Prerequisites: Chemical Engineering 220A-B or equivalent preparation in transport phenomena.

Nuclear safety will be discussed from the viewpoint of the important heat transfer and fluid dynamics phenomena that affect accidents. Analysis of boiling, condensation, and two-phase flow dynamics will be treated in detail.

224A-B. Biomedical Engineering
(4-4) PROFIO

Prerequisites: consent of instructor; Nuclear Engineering 111 recommended.

Engineering applied to medicine. Basic physiology, medical terminology. Biomaterials. Thermal and electrical applications. Diagnostic and therapeutic radiology and nuclear medicine. Radiation protection. Laser medicine and surgery. Ultrasound, nuclear magnetic resonance, other diagnostic techniques. Computers in medicine.

230. Nuclear Power Economics
(3) STAFF

Prerequisites: Nuclear Engineering 130A-B, 140A-B or equivalent.

Actual and future needs for nuclear power. The various components of nuclear power. Nuclear fuel cycle costs. Nuclear materials utilization.

233A-B-C. Topics in Thermofluids
(3-3-3) BANERJEE

Prerequisites: Chemical Engineering 220A-B or equivalent.

Conservation equations and constitutive relationships for multiphase flow, turbulence modeling, boiling, and condensation phenomena, applications to thermalhydraulics problems in the chemical and nuclear industry.

236. Seminar in Thermalhydraulics
(2) BANERJEE, THEOFANOUS

Prerequisite: consent of instructor.

Presentation and discussion of different topics in the form of informal seminars. Topics deal with different research aspects in the field of thermalhydraulics.

240. Nuclear Reactor Dynamics
(3) STAFF

Prerequisites: Nuclear Engineering 140A-B or consent of instructor.

The neutron physics of reactor kinetics, feedback effects, stability analysis (linear and non-linear).

244. Theoretical Methods in Reactor Analysis
(4) STAFF

Prerequisite: Mathematics 5C. May not receive credit for Nuclear Engineering 144.

Discussion of neutron diffusion in various reactor geometries. Time-dependent treatment of reactors. Multi-group and finite-different descriptions. Numerical criticality search. Solving nuclear engineering problems via Monte Carlo. Vector algebra and complex variables.

245. Chemical Nuclear Engineering
(4) STAFF

Prerequisite: consent of instructor.

The nuclear fuel cycle, uranium resources, production of uranium, uranium enrichment, and fabrication of nuclear fuel; fuel reprocessing; radioactive waste management and isolation.

246. Mathematical Methods in Nuclear Engineering
(3) STAFF

Prerequisite: Nuclear Engineering 244

Numerical methods in engineering. Methods for finding roots, solving sets of equations, differentiating and integrating, solving ODE and PDE.

251. Kinetic Processes in Materials
(3) ODETTE

Prerequisite: consent of instructor. Same course as Materials 202.

Kinetics of transformations of materials with emphasis on first order phase transformation.

260. Nuclear Power Systems Design
(4) STAFF

Prerequisite: consent of instructor.

A teamwork design and optimization of nuclear power system using the latest methods of analysis and currently available computer program.

262. Structural Ceramics
(3) STAFF

Prerequisite: consent of instructor. Same course as Materials 262.

Ceramic processing methods. Flaws in ceramics. Fracture resistance and microstructure. Probabilistic design concepts. Nondestructive evaluation approaches. Reinforced ceramics. High temperature properties. Impact damage.

263. Alloy Design
(3) LUCAS

Prerequisite: consent of instructor. Same course as Materials 263.

Matching material performance with the needs of particular engineering applications through control of alloy chemistry, processing, and component fabrication history. Processing—microstructure—property relations. Case histories: energy, aerospace, transportation.

290. Seminar
(1/2) ODETTE

Presentation of research by outside speakers and graduate students.

594. Special Topics
(1-4) STAFF

Special seminar on research subjects of current interest.

596. Directed Reading and Research
(2-4) STAFF

A written proposal for each tutorial must be approved by the department chair.

598. Master's Thesis Research and Preparation
(1-12) STAFF

Not applicable to course requirements for M.S. degree.

Only for research underlying the thesis and writing the thesis.

599. Dissertation Research and Preparation
(1-12) STAFF

Only for research underlying the dissertation and writing the dissertation.

Computer Science

Department of Computer Science,
Engineering I, Room 2106;
Telephone (805) 893-4321
Chair: John Bruno

Faculty

Divyakant Agrawal, Ph.D., SUNY at Stony Brook, Assistant Professor *(distributed systems, and distributed databases)*

John L. Bruno, Ph.D., The City College of New York, Professor, Director of the Center for Computational Sciences and Engineering *(applications of digital systems to engineering problems, distributed systems, scheduling theory, networks and graphs)*

Peter R. Cappello, Ph.D., Princeton University, Associate Professor *(concurrent computation, information retrieval)*

Laura Dillon, Ph.D., University of Massachusetts, Amherst, Associate Professor *(analysis of concurrent systems, semantics of programming languages, formal specification and verification, software systems)*

Omer Egecioglu, Ph.D., UC San Diego, Associate Professor *(bijective and enumerative combinatorics, parallel algorithms, approximation algorithms, combinatorial algorithms)*

Amr El Abbadi, Ph.D., Cornell University, Assistant Professor *(fault-tolerant distributed systems, distributed databases, operating systems)*

Teofilo Gonzalez, Ph.D., University of Minnesota, Professor *(computer-aided design, VLSI placement and routing algorithms, scheduling theory; design and analysis of algorithms)*

Oscar H. Ibarra, Ph.D., UC Berkeley, Professor *(theory of computation, design and analysis of algorithms, computational complexity, parallel computing, VLSI, computer-aided design)*

Richard A. Kemmerer, Ph.D., UC Los Angeles, Professor *(specification and verification of systems, computer system security and reliability, programming and specification language design, software engineering)*

Alan G. Konheim, Ph.D., Cornell University, Professor *(computer communications, computer systems, modeling and analysis, cryptography)*

Marvin Marcus, Ph.D., UC Berkeley, Professor Emeritus

Ambuj Singh, Ph.D., University of Texas at Austin, Assistant Professor *(parallel and distributed systems, formal specification and verification)*

§ Terence R. Smith, Ph.D., Johns Hopkins University, Professor *(spatial databases, techniques in artificial machine intelligence)*

Jianwen Su, Ph.D., University of Southern California, Assistant Professor *(database systems, theory, and applications)*

Yuan-Fang Wang, Ph.D., University of Texas at Austin, Assistant Professor *(computer vision, computer graphics, artificial intelligence)*

***Roger C. Wood**, Ph.D., UC Los Angeles, Professor Emeritus

Tao Yang, Ph.D., Rutgers University, Assistant Professor *(high performance computing, parallel architectures, compiler software systems, algorithms and theoretical analysis)*

* Joint appointment with the Department of Electrical and Computer Engineering.

§ Joint appointment with the Department of Geography.

Affiliated Faculty

P. Michael Melliar-Smith, Ph.D. (Electrical and Computer Engineering)

The Department of Computer Science offers programs leading to the degrees of Bachelor of Arts and Bachelor of Science in computer science, and the M.S. and Ph.D. in computer science. The B.A. is a College of Letters and Science major; the B.S. is a College of Engineering major. Both the B.A. and B.S. degree programs in computer science are accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board.

UCSB has excellent computer facilities including a network of several hundred engineering workstations (Sun, MicroVAX, Tektronix, Convergent, HP and IBM PC-AT), as well as workstation-based computing laboratories for programming and graphics. Most stations are UNIX-based. Special purpose hardware includes a two-CPU Convex supermini, an Alliant FX-1, and a Ridge-32. The network also provides access to NSF SuperComputing Centers and the Internet.

Specialized color displays such as Tektronix graphics terminals and Sun color workstations are available for graphics and CAD/CAM. A microcomputer-based digital design laboratory is available in the Department of Electrical and Computer Engineering. The UCSB Microcomputer Laboratory (MCL) is a general-purpose instructional computing facility equipped with Macintosh, and IBM PS/2, NeXT computers, and UNIX workstations.

The department's Instructional Laboratory includes 30 SUN workstations supported by two file servers and two Gbytes of on-line storage. There is a separate Graduate Student Laboratory populated with additional SUN workstations and laser printers. There are also a number of faculty research laboratories with their own workstation-based computer facilities—Distributed Systems Laboratory, Reliable Software Group, Efficient Computing Laboratory, and Vision Laboratory.

The undergraduate major in computer science has a dual purpose: to prepare students for advanced studies and research and to provide training for a variety of careers in business, industry, and government.

Undergraduate counseling is provided under the direction of the assistant to the dean for undergraduate studies. A faculty member and a peer adviser are also available to help with academic program planning. A department publication, "Undergraduate Studies in Computer Science," describes degree offerings, new courses, and requirement changes.

Admission to the Major

The pre-major requirements for the B.A. and the B.S. degrees in computer science are the same. Students intending to major in computer science should declare a pre-major when applying for admission to the university. Students who declare a pre-major are responsible for satisfying degree requirements in effect at the time of their declaration. When students have completed the preparation courses, they must petition to declare a change from pre-major to major status.

Undergraduate students enrolled in other majors may petition to enter the pre-computer science major at any time Option A below has been met or they may petition to enter the full major when Option B has been met:

Option A: Satisfactory completion at UCSB of at least four 4-unit courses required for the computer science pre-major (listed below), including at least two in computer science, with a pre-major grade-point average of at least 3.0.

Option B: Satisfactory completion of all the pre-major requirements with a University of California grade-point average of at least 2.75.

Please note: Pre-major status does not guarantee admission to major status. No course required for the preparation may be taken on a passed/not passed basis. To be admitted to the major, the student must complete the preparation with a minimum grade-point average of 2.75.

Undergraduate Program

Courses required for the pre-major or major, lower- or upper-division, inside or outside of the Department of Computer Science, cannot be taken for the passed/not passed grading option. They must be taken for letter grades.

Preparation for the major—B.S. and B.A.

Required: Mathematics 3A-B-C, or 3A and 7B-C, or the equivalent; Mathematics 5A or 10A, 8, and 5B or 10B; Computer Science 10, 20, 22, 26, 30 or ECE 15; and Probability and Statistics 120A. Courses identified as options within the preparation are considered equivalent; students may take one of them to satisfy the requirement but may not take more of them for credit.

Bachelor of Science, Computer Science

Upper-division major

The following courses are required: Computer Science 110A or 110B, 130A-B, 136, 154, 160, 162, 170, 186; Electrical and Computer Engineering 152A; and Probability and Statistics 120B. In addition, at least 16 units of major field electives are required. Prior approval of these electives must be obtained from the faculty adviser. For students who enter UCSB in fall 1986 or later, the following courses are required: Physics 1, 2, 3, 3L and at least 8 units of science, mathematics, and engineering electives. Lists of approved science, mathematics, and engineering electives are available in the computer science office.

Bachelor of Arts, Computer Science

Upper-division major

The courses required for the B.A. are the same as for the B.S. degree, with the following exceptions: Computer Science 160 is not required; 7, rather than 16, units of major field electives are required; and a science sequence is required. The science sequence should be selected from: Chemistry 1A-B-C and labs, or Physics 1, 2, 3, 3L or Physics 6A-B-C and labs.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Admission

In addition to fulfilling the Graduate Division requirements for admission, the Department of Computer Science requires a bachelor's degree in some discipline of science, engineering, or mathematics.

Applicants must have a grade-point average of at least 3.0 in their last two years of undergraduate study. Satisfactory performance in the verbal, quantitative, analytical sections of the Graduate Record Examination is required of all applicants. A TOEFL score of at least 560 is required of all foreign applicants whose native language is not English.

Master of Science Degree, Computer Science

Degree Requirements

The normative time for the M.S. degree is two years. Students must take (and receive a grade of B or higher in each) 3 computer science graduate courses: Algorithms (CS 230A), Theory (CS 220), and Systems (CS 262 or CS 270A or CS 270B). A student who has taken an equivalent course, or knows the material, may take the course by *special examination.* The specific requirements for the thesis and the comprehensive examination option are given below.

Plan 1. The student must complete 42 units of coursework approved by a computer science graduate adviser. The student must submit an acceptable thesis, completed under the supervision of a computer science permanent faculty member and approved by a thesis committee composed of three permanent faculty members of the Department of Computer Science. A Plan 1 student enrolls in Computer Science 598, for which he/she may receive 8 units of credit toward the 42 unit requirement. The remaining 34 required units are subject to a number of restrictions designed to ensure program coherence, depth, breadth, and quality. These are: (1) a total of at least 8 upper division (100 series) and graduate level (200 series) courses must be completed, of which at least 5 are graduate level (200 series) courses; (2) a set of courses constituting a major area of study must be completed with an average grade of B or higher. Major areas are defined below.

Plan 2. The student must complete 42 units of coursework approved by a computer science adviser and pass a comprehensive examination. The 42 required units are subject to a number of restrictions designed to ensure program coherence, depth, breadth, and quality. These are: (1) at least 9 upper division (100 series) and graduate level (200 series) courses must be completed, of which at least 7 are graduate level (200 series) courses; (2) a set of courses constituting a major area of study must be completed with an average grade of B or higher. The student must attain a B average or higher in the major area.

The major areas of study are: (1) computational models, algorithms, and complexity; (2) computer systems modeling and analysis; (3) scientific and engineering computing; and (4) software systems. The minor areas of study are: (1) computer systems architecture; (2) graphics and image processing; (3) integrated systems; and (4) machine intelligence.

Doctor of Philosophy, Computer Science

Admission

Students may apply directly to the Ph.D. program without a master's degree. Applicants to the Ph.D. program must have a grade point average of at least 3.5 in their last two years of study. Requirements for the Ph.D. typically are completed in three to five years, depending on whether the student enters the program with a M.S. in computer science. Students entering this program should be committed to completing a Ph.D. M.S. degrees along the way are discouraged.

Degree Requirements

Students must take (and receive a grade of B or higher in each) 3 computer science graduate courses: Algorithms (CS 230A), Theory (CS 220), and Systems (CS 262 or CS 270A or CS 270B). A student who has taken an equivalent course, or knows the material, may take the course by *special examination.*

The written screening examination screens candidates for continuation in the Ph.D. program. It is given twice a year in the eighth week of the Fall quarter and in the eighth week of the Spring quarter. To remain in the Ph.D. program, a student must pass the exam within 6 quarters of residence in the Ph.D. program. No student may take the exam more than twice. The screening examination is administered by the Graduate Examination Committee of the Computer Science faculty. Although the examination material is chosen from upper division undergraduate curriculum, the student must show a level of skill, and a perspective, that is appropriate for graduate work. The examination covers computer science core areas.

After passing the screening examination, the student forms a doctoral research committee. It must be chaired by a permanent member of the Departmental faculty, although faculty from other UCSB departments also may be members. In special circumstances, non-UCSB faculty may be members. After the doctoral committee approves the student's proposed major area, it tests the student's knowledge of this area and any supporting areas (e.g., mathematics and electrical engineering). This test is called the major area examination.

After passing the major area examination, but before taking the qualifying examination, the student prepares a dissertation proposal that describes the dissertation topic, summarizes the relevant background literature and presents a comprehensive research plan for the doctoral dissertation. The plan should include a timetable and a budget that identifies any financial support essential to the preparation of the dissertation. The qualifying examination, which is oral, determines the feasibility of the research plan and the appropriateness of the research topic. This examination is administered by the student's doctoral committee.

The final examination is the defense of the candidate's dissertation. It consists of a public seminar-like lecture, questions from the audience, and a recommendation by the candidate's doctoral committee.

Computer Science Courses

LOWER DIVISION

1A. Elements of Computing

(3) STAFF

Prerequisites: Computer Science 1A-B-C is a terminal course intended for students with little or no background in computing. Not open to computer science pre-majors or majors.

Problem solving techniques, logical symbolism, structured design, pseudo code, introduction to programming, numerical and graphical representations, counting, sorting, and simulation.

1B. Programming on Microcomputers

(3) STAFF

Prerequisite: Computer Science 1A or Interdisciplinary 5 or consent of instructor.

An introduction to computer programming using two high-level languages commonly available on microcomputers: BASIC and PASCAL.

1C. Computer Hardware, Software, and Data Structures Concepts

(4) STAFF

Prerequisite: Computer Science 1B or consent of instructor.

An introduction to some advanced computer hardware and software concepts from the viewpoint of computer users. Topics include: hardware models, Boolean algebra and circuit design, number systems and internal representation of data, operating systems, various data structures.

SAA-ZZ. Introduction to Computer Programming and Organization

(4) STAFF

Prerequisites: Computer Science 5PA is not open for credit to students who have taken Computer Science 10. Computer Science 5FO is not open for credit to students who have taken Engineering 3. Computer Science 5 may be repeated with a different suffix.

Introduction to programming and the organization of computers. Basic programming concepts, algorithms, data and control structures, debugging, program design, documentation, structured programming. Sections are:

5PA-Pascal
5FO-Fortran
5AP-APL
5CO-Cobol
5SN-Snobol
5LI-Lisp
5PL-PL/I

10. Introduction to Computer Programming
(4) STAFF

Prerequisite: Mathematics 3A or 7A.

Introduction to programming and the organization of computers. Basic programming concepts: algorithms, data and control structures, debugging, program design, documentation, structured programming.

11AA-ZZ. Programming Language Laboratory
(1) STAFF

Prerequisite: knowledge of at least one programming language. Different sections may be repeated. Sections not always offered.

A self-paced course to allow a student who already possesses a working knowledge of at least one programming language an opportunity to learn other languages of interest. Each section studies a different language. Sections are:

11PA-Pascal
11FO-Fortran
11AP-APL
11CO-Cobol
11SN-Snobol
11LI-Lisp (2 units)
11PL-PL/I
11AD-ADA

12. Introduction to C and UNIX
(4) BRUNO

Prerequisite: knowledge of at least one programming language or consent of instructor. Cannot be taken for credit by Computer Science majors or pre-majors or by students who have received credit for Computer Science 11C or Computer Science 22.

Introduction to the UNIX system and the C programming language. Topics include: basic introduction to the UNIX system, and the C programming language; vi editor; C shell and shell scripts; the UNIX file system and other UNIX utility programs.

20. Programming Methods
(4) GONZALEZ

Prerequisite: Computer Science 10, Mathematics 3B or Mathematics 7B.

Programming techniques as follows: specification, representation, and manipulation of basic data structures such as stacks, queues, lists, trees, sets, arrays, etc. Searching and sorting techniques; recursion, string processing.

22. Intermediate C and UNIX
(4) BRUNO

Prerequisite: Computer Science 20 or consent of instructor. This course cannot be taken for credit by students who have received credit for Computer Science 11C or 12.

Topics include: study of the C programming language with an emphasis on dynamic storage allocation, pointer, and implementation of data structures such as stacks, queues, lists and trees. Debugging tools; editors, C shell, shell scripts; UNIX file system, other UNIX utility programs.

26. Foundations of Computer Science
(4) CAPPELLO

Prerequisites: Mathematics 8, and 5B or 10B; or consent of instructor.

Theory and computer science applications of sets, relations, functions, propositional logic, elementary first order logic, mathematical induction, pigeon-hole principle, addition and multiplication counting principles, permutations, combinations, distributions, binomial/multinomial coefficients and theorems, inclusion-exclusion principle, elementary generating functions, recurrence relations.

30. Introduction to Computer Systems
(4) WOOD

Prerequisite: knowledge of at least one high-level programming language. Not open for credit to students who have received credit for ECE 15 or equivalent.

Basic computer organization; assembly language programming; input-output programming; interrupt handlers.

UPPER DIVISION

109A-B. Introduction to Mathematical Logic
(4-4) STAFF

Prerequisites: Computer Science 136 or 186; or Mathematics 108A, or 111A, or 136A; or Philosophy 183. Same course as Mathematics 109A-B.

An introduction to mathematical logic with applications in computer science and mathematics. Possible topics include propositional and predicate calculi, models, proof systems, decidability and undecidability, automated theorem proving, unification, logic programming, and program verification.

110A. Foundations of Scientific Computing: Continuous Algorithms
(4) STAFF

Prerequisites: knowledge of at least one high-level programming language. Not open for credit to students who have completed Computer Science 110.

Analysis and design of computer algorithms for nonlinear problems, determining specifications, software implementation, testing program reliability. Emphasis in the 110A-B-C sequence is on appropriate data structures, programming methodology, and performance evaluation for numerical software.

110B. Foundations of Scientific Computing: Discrete Algorithms
(4) STAFF

Prerequisite: knowledge of at least one high-level programming language.

Analysis and design of computer algorithms for problems in numerical algebra and discrete optimization. Emphasis in the 110A-B-C sequence is on appropriate data structures, programming methodology, and performance evaluation for numerical software.

110C. Foundations of Scientific Computing: Selected Topics
(4) STAFF

Prerequisite: Computer Science 110A or 110B or consent of instructor.

Selected topics in analysis and design of numerical software. Topics may include: fast numerical algorithms; numerical methods for parallel computers; complexity of numerical algorithms; computer graphics in scientific computation.

125. Introduction to Data Structures and Algorithms
(4) AGRAWAL

Prerequisite: Computer Science 12 or 11C. Not open to computer science pre-majors or majors.

Data structures and applications. Mathematical induction, recursion. Analysis of algorithms, space and time complexity. Stacks, queues, deques, singly- and doubly-linked lists. Complex linked structures. Binary trees, traversals, basic operations on trees. Sorting, searching.

130A. Data Structures and Algorithms I
(4) GONZALEZ

Prerequisites: Computer Science 12 or 22; Computer Science 20 and 26.

The study of data structures and applications. Correctness proofs and techniques for the design of correct programs. Internal and external searching. Hashing and height balanced trees. Analysis of sorting algorithms. Memory management. Graph traversal techniques and their applications.

130B. Data Structures and Algorithms II
(4) GONZALEZ

Prerequisites: Computer Science 26 and 130A.

Design and analysis of computer algorithms. Correctness proofs and techniques for the design of correct programs. Solution of recurrence relations. Design techniques: divide and conquer, greedy strategies, dynamic programming, backtracking, and local search. Applications of techniques to problems from several disciplines.

130C. Algorithms for Graph and Network Problems
(4) GONZALEZ

Prerequisites: Computer Science 130A-B. Open to computer science majors only or consent of department.

Design and analysis of nonnumerical algorithms. Topics include: (1) representation of directed and undirected graphs; (2) directed graph algorithms such as shortest path problems, traversal, dag's strongly connected components, flow problems; and (3) undirected graph algorithms such as minimum-cost spanning trees, traversal biconnected components, matching, planarity testing.

136. Automata and Formal Languages
(4) STAFF

Prerequisite: Computer Science 26. Not open for credit to students who have received credit for Computer Science 185.

Finite automata and regular expressions; properties of regular languages; pushdown automata and context free grammars/languages; properties of context-free languages.

140. Software Fabrication
(4) STAFF

Prerequisites: Computer Science 11C or 12 or 22, and 130A-B.

Software engineering's lowest level can be called software fabrication: computer program construction using software tools. Problems include maintenance ease; portability; efficiency; security; and trade-offs between compiled versus interpretive, batch versus interactive, and printed versus screen-oriented approaches. (May not be offered each year)

154. Computer Architecture
(4) WOOD

Prerequisite: ECE 152A. Not open for credit to students who have received credit for ECE 154.

Introduction to the architecture of computer systems. Topics include: central processing units, memory systems, channels and controllers, peripheral devices, interrupt systems, software versus hardware trade-offs.

160. Translation of Programming Languages
(4) GONZALEZ

Prerequisites: Computer Science 130B and 136. Open to computer science majors only or consent of department.

Study of the structure of compilers. Topics include: lexical analysis; syntax analysis including LL and LR parsars; type checking; run-time environments; intermediate code generation; and compiler-construction tools.

162. Programming Languages
(4) KEMMERER

Prerequisite: Computer Science 130A. Open to computer science majors only or consent of department.

Basic concepts of programming languages: binding, type-checking, storage management, scope of names, extensibility, macro processing, syntax, semantics, pragmatics; analysis and evaluation of programming languages from data- and control-structure points of view.

165. Machine Intelligence
(4) SMITH

Prerequisites: Computer Science 11LI — preferably taken prior to Computer Science 165, but may be taken concurrently.

Machine intelligence is concerned with computational techniques for representing and reasoning about complex objects. Topics covered include some of the machine intelligence programming languages, data structures, control structures, and problem solving techniques used in both research and application.

170. Operating Systems
(4) BRUNO

Prerequisites: Computer Science 130A or 125, and 154. Open to computer science majors, or ECE majors, or by consent of department.

Basic concepts of operating systems. The notion of a process; interprocess communication and synchronization; input-output, file systems, memory management.

172. Software Engineering
(4) KEMMERER

Prerequisites: Computer Science 130A; Computer Science 130B is desirable. Open to computer science majors only or by consent of department.

Software engineering is concerned with long-term, large-scale programming projects. Software management, cost estimates, problem specification and analysis, system design techniques, system testing and performance evaluation, and system maintenance. Students will design, manage, and implement a medium-sized project.

174. Data Base Management Systems
(4) EL ABBADI

Prerequisites: Computer Science 130B and 170. Open to computer science majors only or by consent of department.

Data base systems architecture, network, hierarchical and relational systems; data base languages; data base operational requirements.

175. Introduction to Performance Evaluation
(4) KONHEIM

Prerequisites: Computer Science 170 and PSTAT 120A or 121A. Open to computer science majors only or consent of department.

Asymptotic performance bounds. The M/M/1, M/G/1 queues. Objectives of performance modeling and capacity planning. Solution of open, closed, and mixed product form networks by MVA and convolution. The BCMP theorem. Approximate models of non-product form systems, including priority queueing and memory contention. (May not be offered each year)

176. Introduction to Computer Communication Networks
(4) KONHEIM

Prerequisite: Computer Science 154 or ECE 154. Open to computer science majors and ECE majors only or consent of department.

Topics include: transmission media and methods; switching types; network taxonomy; line control procedures; routing and flow control; line capacity assignment.

178. Introduction to Cryptography
(4) KONHEIM

Prerequisites: Computer Science 10 and Probability and Statistics 120A or 121A, or equivalent courses.

An introduction to the basic concepts and techniques of cryptography and cryptanalysis. Topics include: the Shannon Theory, classical systems, the Enigma machine, the Data Encryption Standard, public key systems, digital signatures, file security.

180. Computer Graphics
(4) WANG

Prerequisite: Computer Science 130B or consent of instructor.

Basic display techniques, display devices, vector generation, display processors; homogeneous coordinates, transformations and clipping; graphics systems, interactive graphics, introduction to curve and surface representations; hidden line and surface elimination algorithms.

181B. Introduction to Computer Vision
(4) WANG

Prerequisite: same course as ECE 181B.

Overview of image processing, pattern recognition; image formation, binary images; edge detection, image segmentation, introduction to textured image analysis, optical flow, depth from stereo, shape from shading, shape from motion, shape representation techniques, issues in object recognition, case study of some vision systems.

186. Theory of Computation
(4) IBARRA

Prerequisite: Computer Science 136 or 185. Open to computer science majors only or consent of department. Not open for credit to students who have received credit for Mathematics 151.

Turing machines; computability and unsolvability; computational complexity; intractability and NP-completeness.

190AA-ZZ. Special Topics in Computer Science
(1-5) STAFF

Prerequisite: consent of instructor. Sections may not be repeated without the consent of the chair.

These variable unit courses provide for the study of topics of current interest in computer science. A: Artificial Intelligence. B: Computer Graphics. C: Pattern Recognition. D: Program Verification. E: Computer Architectures. F: Algorithms and Complexity. G: Mathematical Theory of Computation. H: Semantic Models. I: Software Systems. J: General. K: Computer Systems Modeling and Analysis. L: Scientific Computation

192. Projects in Computer Science
(4) STAFF

Prerequisite: consent of instructor. May be repeated once for credit but only 4 units may be applied to the major.

Projects in computer science for advanced undergraduate students.

193. Internship in Industry
(1-4) STAFF

Prerequisites: consent of instructor and department chair. Not more than 4 units per quarter; may not be applied as science, mathematics, and engineering electives. May be repeated with faculty/chair approval.

Special projects for selected students. Offered in conjunction with selected industrial and research firms under direct faculty supervision. Prior departmental approval required.

194. Group Studies in Computer Science
(1-5) STAFF

May be repeated for credit to a maximum of 8 units but only 4 units may be applied to the major.

Group studies intended for small number of advanced students who share an interest in a topic not included in the regular department curriculum.

196. Undergraduate Research
(2-4) STAFF

Prerequisites: students must : (1) have attained upper-division standing, (2) have a minimum 3.0 grade-point average for the preceding three quarters, (3) have consent of the instructor. May be repeated for up to 12 units. No more than 4 units may be applied to departmental electives.

Research opportunities for undergraduate students. Students will be expected to give regular oral presentations, actively participate in a weekly seminar, and prepare at least one written report on their research.

199A-B-C. Independent Studies in Computer Science
(1-5, 1-5, 1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in computer science. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Computer Science 199A-B is a two-quarter in-progress course with grades for both quarters assigned upon completion of 199B. Computer Science 199C is a one-quarter course with grade assigned at the end of the quarter.

GRADUATE COURSES

210A. Linear Equations and Least Squares
(4) STAFF

Prerequisite: consent of instructor. Students should be proficient in linear algebra, mathematically rigorous proofs, and some programming language.

The topics include floating-point numbers, properties of norms, Gaussian elimination and its variants, sensitivity of linear systems, error analysis for standard algorithms, the singular value decomposition, least-square problems, the QR decomposition, parallel matrix algorithms. (May not be offered each year)

210B. Algebraic Eigenvalue Problems
(4) STAFF

Prerequisite: consent of instructor. Students should be proficient in linear algebra, mathematically rigorous proofs, and some programming language.

Topics include algorithms and perturbation theory for eigenvalue/eigenvector problems, QR-type iteration processes, generalized eigenvalue problems, singular value decomposition, parallel algorithms, approximation theory, approximation of matrix-valued functions, condition estimation. (May not be offered each year)

210C. Topics in Scientific Computation
(4) STAFF

Prerequisite: consent of instructor. Students should be proficient in linear algebra, mathematically rigorous proofs, and some programming language.

Topics may include one or more of the following: interpolation and approximation, quadrature, ordinary differential equations, iterative methods for solving linear and nonlinear problems, sparse matrix theory and applications, parallel algorithms in numerical analysis. Consult the instructor for the exact course content. (May not be offered each year)

220. Automata-Based Complexity
(4) IBARRA

Prerequisite: Computer Science 186.

Topics include: models of computation; time and space complexity classes (e.g., P, NP, Co-NP, and PSPACE), efficient reducibilities, complete problems; lower bounds; the polynomial hierarchy. (May not be offered each year)

221. Formal Languages
(4) IBARRA

Prerequisite: Computer Science 186.

Topics include: context-free grammars and languages, normal-form theorems, pumping lemma, characterization theorems, language classes, parsing, decision problems. (May not be offered each year)

222. Computability
(4) STAFF

Prerequisite: Computer Science 221.

Partial and total recursive functions, Godel numbering, recursion theorem, reducibilities, the arithmetic hierarchy, Blum's axioms, union, gap, and speedup theorems; priority arguments. (May not be offered each year)

230A-B. Design and Analysis of Algorithms
(4-4) GONZALEZ

Prerequisites: Computer Science 130A-B. Not open for credit to students who have received credit for Mathematics 254.

Topics include: NP-completeness and reducibility; approximation algorithms; polynomial and fully polynomial time approximation schemes; amortized complexity; graph algorithms; lower bound techniques; probabilistic analysis of algorithms; randomized algorithms; linear programming.

232. Complexity of Parallel Algorithms
(4) EGECIOGLU

Prerequisite: Computer Science 186.

Current research topics in the area of parallel algorithms and complexity. Topics include: models of parallel computation, Boolean circuits, complexity classes, the class NC, parallel arithmetic operations, graph algorithms, and matrix operations.

233. Parallel Distributed Processing
(4) EGECIOGLU

Prerequisites: Computer Science 130A-B. Computer Science 186 is recommended.

Introduction to the analysis of neural networks. Linear threshold functions and Rosenblatt's perceptron mode. Feed-forward networks, and the generalized delta rule. Dynamics of the Hopfield net. Stochastic models and the Boltzmann machine. Applications to pattern classification and associative memory. (May not be offered each year)

235. Computational Geometry
(4) STAFF

Prerequisites: Computer Science 130A-B.

Algorithms and lower-bound techniques in computational geometry; decision tree models of computation; geometric searching; point location and range search; convex hull and maxima of a point set; proximity algorithms; geometric intersections. (May not be offered each year)

250. Computational Aspects of VLSI
(4) CAPPELLO

Prerequisites: Computer Science 130B and 186.

VLSI models of computation; lower bounds on area and time; layout algorithms; algorithm design for

VLSI; systolic algorithms; organization with high wire area; overview of VLSI design systems.

255. Algorithms and Complexity Issues in CAD

(4) GONZALEZ

Prerequisites: Computer Science 130A-B. It is recommended that Computer Science 230A be taken before Computer Science 255.

Survey of VLSI and MPCB layout systems. Solutions to fundamental problems in VLSI layout systems: placement, channel definition, global routing, channel assignment, and channel routing. Basic problems in MPCB layout systems: placement via assignment single-line single-layer routing, via placement and layering. (May not be offered each year)

260. Advanced Topics in Translation

(4) STAFF

Prerequisites: Computer Science 160 and 162. Not open to students who have received credit for ECE 267 or Computer Science 267.

Theoretical aspects of translation. Topics include: parsing algorithms for LR and LL grammars, intermediate code generation, flow analysis, optimization; run-time environments, attributed grammars, error processing. (May not be offered each year)

262. Semantics of Programming Languages

(4) DILLON

Prerequisites: Computer Science 160 and 162.

Methods for the formal description of programming languages; various approaches to formal semantics: operational, denotational, axiomatic, attribute grammars; complimentary definitions.

264. Automated Theorem Proving

(4) STAFF

Prerequisites: Computer Science 130A-B; Computer Science 186 or Mathematics 151; consent of instructor.

The seminar will examine applications and user interfaces of automated theorem provers, and will concentrate on basic algorithms and new results in efficient automated proof of formulas. Students will experience existing theorem provers hands-on. Each student will propose and carry out a review of previous work, an implementation of a new algorithm, and a presentation of studies and results. (May not be offered each year)

265. Advanced Topics in Machine Intelligence

(4) SMITH

Prerequisite: Computer Science 165 or consent of instructor. Course may be repeated for credit.

Topics covered include advanced programming techniques for representing and reasoning about complex objects, and various applications of such techniques including expert systems, natural language processors, image understanding systems, and machine learning.

266. Formal Specification and Verification

(4) KEMMERER

Prerequisites: Computer Science 130A-B; Computer Science 186 or Mathematics 131. Computer Science 262 is recommended.

This course provides an introduction to existing specification and verification systems, and to the underlying theory and techniques of verifying the correctness of algorithms with respect to specifications. This subject can be considered as the combination of specification and verification techniques, programming language semantics, and formal logic.

270A. Advanced Topics in Operating Systems

(4) BRUNO

Prerequisite: undergraduate course in operating systems and computer architecture.

Operating system implementation issues. Topics include process and storage management, file systems, I/O subsystems, multiprocessor and distributed operating systems, computer networking.

270B. Advanced Topics in Distributed Systems

(4) EL ABBADI

Prerequisite: Computer Science 170.

Event ordering, clocks, agreement, fault-tolerance, synchronization.

272. Software Engineering

(4) KEMMERER

Prerequisite: Computer Science 172.

Principles of software engineering disciplines emphasizing requirements analysis, specification design, coding, testing and correctness proofs, maintenance, and management. Students will use a number of software engineering tools.

274. Advanced Topics in Data Base Management Systems

(4) EL ABBADI

Prerequisite: Computer Science 170 or consent of instructor.

Topics include: data models, semantics; data integrity; database design; serializability theory, concurrency control, recovery, distributed databases.

275. Performance Evaluation

(4) KONHEIM

Prerequisites: Computer Science 170; Probability and Statistics 120A-B or 121A-B; or consent of instructor.

Performance bounds for multiple class systems. Applications of tenerating functions, Laplace transforms to study of queues. Objectives of performance modeling. Open/closed networks of BCMP queues and solution methods; approximate models of priority queues, simultaneous possession; communication networks, distributed systems. (May not be offered each year)

276. Distributed Computing and Computer Networks

(4) KONHEIM

Prerequisite: Computer Science 270A.

Distributed processing: task partitioning, interprocess communication, synchronization, reconfiguration, file allocation, and deadlock problems; computer communication network models, analysis and synthesis. (May not be offered each year)

277. Computer Security

(4) KEMMERER

Prerequisite: Computer Science 170.

Analysis of technical difficulties of producing secure computer information systems that provide guaranteed controlled sharing. Examination and critique of current systems, methods; certification.

278. Simulation

(4) STAFF

Prerequisites: Probability and Statistics 120A or 121A and Computer Science 130A.

Model formulation and programming for discrete event systems. Considerations in the design and implementation of simulation languages; statistical considerations; design of experiments, random number generation, data analysis. (May not be offered each year)

280. Computer Graphics

(4) WANG

Prerequisite: Computer Science 180.

Selected topics in computer graphics including: advanced display architectures; graphic representations of three-dimensional objects; techniques for achieving visual realism, shadows, antialiasing, and texture; advanced color and lighting models; ray tracing algorithms; stereoscopic projection; contour generation; mapping; metafiles; graphic standards. (May not be offered each year)

281B. Advanced Topics in Computer Vision

(4) WANG

Prerequisite: Computer Science 181B or consent of instructor. Same course as ECE 281B.

Advanced topics in computer vision: image sequence analysis, spatio-temporal filtering, camera calibration and hand-eye coordination, robot navigation, shape representation, physically-based modeling, multi-sensory fusion, biological models, expert vision systems, and other topics selected from recent research papers.

290AA-ZZ. Special Topics in Computer Science

(1-5) STAFF

Prerequisite: consent of instructor.

These variable-unit courses provide for the study of topics of current interest in computer science. Special topics are coded as follows. A: Artificial Intelligence. B: Computer Graphics. C: Pattern Recognition. D: Program Verification. E: Computer Architectures. F: Algorithms and Complexity. G: Mathematical Theory of Computation. H: Semantic Models. I: Software Systems. J: General. K: Computer Systems Modeling and Analysis. L: Scientific Computation.

501. Techniques of Engineering Teaching

(2) STAFF

Prerequisite: consent of graduate adviser. This course is required for new teaching assistants, and may be taken only once. No unit credit allowed toward advanced degree.

An initial 1-2 day workshop on teaching techniques followed by practical experience in teaching, video-taping, and meetings with instructional consultation staff to improve techniques.

502. Teaching of Computer Science

(1-4) STAFF

Prerequisite: Computer Science 501 or consent of instructor. May be taken concurrently with Computer Science 501. No unit credit allowed toward advanced degree.

Procedures and techniques for teaching computer science gained through actual teaching of lecture courses, leading discussion sections, and/or teaching laboratories. Meetings will be held as needed to discuss problems, methods and procedures.

595AA-ZZ. Group Studies in Computer Science

(1-5) STAFF

Prerequisite: consent of instructor. May be repeated for credit if there is no duplication of course content.

Instruction in these variable unit courses may be carried out by lecture, or by laboratory, or by a combination of the two. These courses provide critical review of research in various areas of computer science. See Computer Science 290AA-ZZ for list of topics.

596A-B-C. Directed Research

(2-12, 2-12, 2-12) STAFF

Computer Science 596A-B is a two-quarter in-progress course with grades for both quarters assigned upon completion of 596B. Computer Science 596C is a one-quarter course with grade assigned at the end of the quarter.

Research, either experimental or theoretical, may be undertaken by properly qualified graduate students under the direction of a faculty member.

597. Individual Studies for M.S. Comprehensive Examinations and Ph.D. Examinations

(1-12) STAFF

No unit credit allowed toward advanced degree. Enrollment limited to 24 units per examination. Maximum of 12 units per quarter. Instructor is normally student's major professor or chair of doctoral committee. S/U grading.

Individual studies for M.S. comprehensive examination and Ph.D. examinations.

598. Master's Thesis Research and Preparation

(1-12) STAFF

Prerequisite: consent of graduate advisor.

For research underlying the thesis and writing of the thesis.

599. Ph.D. Dissertation Research and Preparation

(1-12) STAFF

Prerequisite: consent of chair of student's doctoral committee.

Research and preparation of dissertation.

Electrical and Computer Engineering

Department of Electrical and Computer Engineering, Engineering I, Room 1107; Telephone (805) 893-2269 or (805) 893-3821

Chair: Evelyn L. Hu

Faculty

John E. Bowers, Ph.D., Stanford University, Professor *(high-speed photonic and electronic devices, optoelectronic integrated circuits, laser physics and mode-locking phenomena, compound semiconductor materials and processing)*

Forrest D. Brewer, Ph.D., University of Illinois at Urbana-Champaign, Assistant Professor *(VLSI and computer system design automation, theory of design, parallel and systolic computer architecture)*

Steven E. Butner, Ph.D., Stanford University, Associate Professor *(computer architecture, VLSI design of CMOS and gallium-arsenide ICs with emphasis on distributed organizations and fault-tolerant structures)*

§ **Larry A. Coldren**, Ph.D., Stanford University, Professor, Director of Optoelectronics Technology Center *(semiconductor integrated optoelectronics, optical waveguides, single-frequency lasers, optical fiber communication, growth and processing techniques)*

Nadir Dagli, Ph.D., Massachusetts Institute of Technology, Associate Professor *(design, fabrication, and modeling of guided wave components for optical integrated circuits, solid state microwave and millimeter wave devices, study of quantum interference and waveguiding effects in quantized electronic structures)*

Jorge R. Fontana, Ph.D., Stanford University, Professor Emeritus

Allen Gersho, Ph.D., Cornell University, Professor, Director of Center for Information Processing Research *(digital coding of speech, image and video processing, neural networks, real-time signal processing, and communication theory)*

§ **Arthur C. Gossard**, Ph.D., UC Berkeley, Professor *(epitaxial crystal growth, artificially structured materials, semiconductor structures for optical and electronic devices, quantum confinement structures, superconducting films)*

Glenn R. Heidbreder, D. Eng., Yale University, Professor Emeritus

Steven M. Horvath, Ph.D., Harvard University, Professor Emeritus

James A. Howard, Ph.D., UC Los Angeles, Professor Emeritus

Evelyn Hu, Ph.D., Columbia University, Professor *(high-resolution fabrication techniques for semiconductor device structures, process-related materials damage, contact/interface studies, superconductivity)*

Ronald Iltis, Ph.D., UC San Diego, Associate Professor *(digital spread spectrum communications, spectral estimation and adaptive filtering)*

John P. J. Kelly, Ph.D., UC Los Angeles, Associate Professor *(software engineering, dependable, fault-tolerant software, database systems and machines, and distributed computing)*

Petar V. Kokotovic, Ph.D., USSR Academy of Sciences, Professor, Co-Director of Center for Control Engineering and Computation *(sensitivity analysis, singular perturbations, large-scale systems, adaptive control)*

§ **Herbert Kroemer**, Dr. rer. nat., University of Göttingen, Professor *(general solid-state and device physics, heterostructures, molecular beam epitaxy, compound semiconductor materials and devices, superconductivity)*

Alan J. Laub, Ph.D., University of Minnesota, Professor, Co-Director of Center for Control Engineering and Computation *(scientific computation, numerical analysis, mathematical software, computer-aided control system design, linear and large-scale system theory, numerical linear algebra, parallel algorithms)*

Hua Lee, Ph.D., UC Santa Barbara, Professor, Director of Center for High-Speed Image Processing *(optimization of imaging systems, system analysis and signal processing, optical and acoustical imaging systems, tomographic and holographic systems, computer vision of robotic systems, medical imaging and remote sensing, radar and sonar imaging, and digital image processing and enhancement)*

Stephen I. Long, Ph.D., Cornell University, Professor *(compound semiconductor devices, processing techniques, design of very-high-speed digital and analog integrated circuits, device models for integrated circuit design)*

B.S. Manjunath, Ph.D., University of Southern California, Assistant Professor *(image processing, computer vision, pattern recognition, artificial intelligence, neural networks, learning alogorithms, self-organizing systems)*

Malgorzata Marek-Sadowska, Ph.D., Technical University of Warsaw, Poland, Professor *(design automation computer-aided design, and integrated circuit layout)*

George L. Matthaei, Ph.D., Stanford University, Professor Emeritus

P. Michael Melliar-Smith, Ph.D., University of Cambridge, Professor *(fault tolerance, formal specification and verification for distributed systems, communications, parallel processing)*

§ **James L. Merz**, Ph.D., Harvard University, Professor, Director of Center for Quantized Electronic Structures *(optical properties of semiconductors, including guided-wave and integrated optical devices, semiconductor lasers, optoelectronic devices, native defects in semiconductors, low-dimensional quantum structures)*

Umesh Mishra, Ph.D., Cornell University, Associate Professor *(high-speed transistors, semiconductor device physics, quantum electronics, optical control, design and fabrication of millimeter-wave devices, in-situ processing and integration techniques)*

Sanjit K. Mitra, Ph.D., UC Berkeley, Professor *(digital signal and image processing, computer-aided design and optimization)*

Louise E. Moser, Ph.D., University of Wisconsin, Assistant Professor *(distributed systems, parallel processing, computer networks, fault-tolerance, formal specification and verification)*

Venkatesh Narayanamurti, Ph.D., Cornell University, Professor *(transport, phonon optics, nano-structures, superlattices, tunneling, superconductivity)*

Philip F. Ordung, D. Eng., Yale University, Professor Emeritus

Behrooz Parhami, Ph.D., UC Los Angeles, Professor *(dependable and fault-tolerant computing, computer design and architecture, parallel processing, digital computer arithmetic)*

§ **Pierre M. Petroff**, Ph.D., UC Berkeley, Professor, Director of Compound Semiconductor Research Center *(crystal growth, transmission electron microscopy and spectroscopy of defects and interfaces in semiconductors, quantum wires and boxes, device degradation, and superconductivity)*

Ian B. Rhodes, Ph.D., Stanford University, Professor *(mathematical system theory and its applications with emphasis on stochastic control, communication, and optimization problems, especially those involving decentralized information structures or parallel computational structures)*

Mark J.W. Rodwell, Ph.D., Stanford University, Associate Professor *(development of electronic and optoelectronic devices, structures, and circuits for millimeter-wave analog systems, very-high-speed digital systems, and picosecond measurement systems)*

Kenneth Rose, Ph.D., California Institute of Technology, Assistant Professor *(information theory, image and signal processing, pattern recognition, computer vision)*

John J. Shynk, Ph.D., Stanford University, Associate Professor *(adaptive filtering, digital signal processing, communications theory, neural networks)*

John G. Skalnik, D. Eng., Yale University, Professor Emeritus

Roy Smith, Ph.D., California Institute of Technology, Assistant Professor *(robust control theory with an emphasis on the relationship between uncertain models, identification methods and experimental data, applications of systems theory to flexible space structures, chemical processes, and automotive systems)*

Emmanouel Varvarigos, Ph.D., Massachusetts Institute of Technology, Assistant Professor *(data networks, routing and communication aspects in multiprocessor computers, parallel processing architectures and VLSI design, communication systems, detection and estimation)*

Glen Wade, Ph.D., Stanford University, Professor Emeritus

§§ **Roger C. Wood**, Ph.D., UC Los Angeles, Professor Emeritus

Pochi Yeh, Ph.D., California Institute of Technology, Professor *(phase conjugation, nonlinear optics, dynamic holography, optical computing, optical interconnection, neural networks, and image processing)*

Robert York, Ph.D., Cornell University, Assistant Professor *(microwave and millimeter-wave devices and measurement techniques, electromagnetic theory, antennas, nonlinear circuits and dynamics)*

§ Joint appointment with the Department of Materials.

§§ Joint appointment with the Department of Computer Science.

Affiliated Faculty

Steven P. DenBaars, Ph.D. (Materials)

Eric Mc Farland, Ph.D., M.D. (Chemical and Nuclear Engineering)

Bradley E. Paden, Ph.D. (Mechanical and Environmental Engineering)

The Department of Electrical and Computer Engineering offers programs leading to the degree of Bachelor of Science in Electrical Engineering. A wide range of program options, including computer engineering, microwaves, signals and systems, and solid state is offered. The department's undergraduate program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology.

Graduate studies leading to the M.S. and Ph.D. degrees in Electrical and Computer Engineering are offered in four major areas of specialization: computer engineering; signals and systems; solid state; and wave electronics and technology.

In addition, the Department offers certificate programs for those with a B.S. degree or higher who wish to advance their knowledge in a specific area or to undertake a new area. Approved programs are in the following areas: circuits and signal processing; control and communication systems; computer engineering; wave electronics and technology; and solid state.

The undergraduate major in electrical engineering prepares students for a wide range of positions in business, government, and private industrial research, development, and manufacturing organizations. The graduate programs offer educational opportunities at an advanced level, leading at the M.S. level to increased career opportunities in the foregoing positions, and at the Ph.D. level to careers in research and teaching and positions of professional leadership.

Students who complete a major in electrical engineering may be eligible to pursue a California teaching credential. Interested students should consult the credential adviser in the Graduate School of Education.

Counseling is provided to undergraduates by the assistant to the dean for undergraduate studies in the College of Engineering. Students who plan to change to a major in the Department should consult the assistant to the dean. Department undergraduate advisers are available to assist students in choosing senior elective courses.

Counseling is provided to graduate students through two academic advisers who oversee the areas of electrical and computer engineering, and the off-campus program televised to Pt. Mugu. Individual faculty members are also available for help in academic planning.

Laboratory Facilities

In addition to formal classroom lectures and studies, the Department places strong emphasis on the inclusion of laboratory and computational experience in a student's program of study. To support this experience, the department and the campus maintain an extensive complement of relevant laboratory and computational facilities. Instructional laboratory facilities are available to support undergraduate courses in circuits, electronics, digital systems, communications, control, signal and image processing, microwaves, and solid-state device fabrication. Students may access microcomputers and workstations in the Microcomputer Laboratory or the College of Engineering CAD Laboratory.

The Department also maintains modern well-equipped facilities for research in communications, control, signal processing, image processing, scientific computation, VLSI design and testing, computer architecture, fault-tolerant computing, microwaves, optics and acoustics, and solid state microelectronics. All research laboratories include or have access to modern computer facilities. Workstations in the various research laboratories have access via a local area network to a wide range of computing resources. The solid state research facilities include laboratories for crystal growth by molecular beam epitaxy, microfabrication and processing, gallium arsenide integrated circuit design, and compound-semiconductor optical device and materials research.

Undergraduate Program

Bachelor of Science, Electrical Engineering

Admission to the major

Admission to the lower-division pre-major does not guarantee admission to upper-division major status. The Department cannot accept all qualified pre-majors and transfer applicants into the upper-division major and, in the interest of maintaining a quality program, seeks the best qualified applicants. Those pre-majors who (1) complete 90 units including all pre-major requirements in the two academic years following admission as freshmen, and (2) compile a cumulative grade-point average exceeding 2.85 during their first five quarters will be admitted to upper-division major status. All other applicants will be considered on a competitive basis.

Preparation for the major

All undergraduate majors in the Department are required to meet a set of minimum unit and grade-point requirements and a set of General Education requirements which are common to all undergraduate majors in the College of Engineering. In addition, required preparation for the major consists of the following lower-division courses (or their equivalents if taken elsewhere): Engineering 3; Electrical and Computer Engineering 2A-B-C and 15; Chemistry 1A-B-C and 1AL-BL-CL; Mathematics 3A-B-C and 5A-B-C; and Physics 1, 2, 3, 4, 3L, 4L.

The assistant to the dean can suggest a recommended study plan for electrical and computer engineering freshmen and sophomores. Each junior is assigned a departmental undergraduate adviser who must be consulted in planning the junior and senior year programs.

Upper-division major

The upper-division requirements consist of a set of required courses plus a minimum of 24 units of additional departmental elective courses selected from a wide variety of specialized courses. All departmental elective programs must contain at least two sequences, each consisting of two or more related courses. Required upper-division courses for the major are: Electrical and Computer Engineering 130A-B, 132, 134, 137A, 137B, either 105 or 140, Engineering 101, and one engineering science course from outside the department. A list of acceptable engineering science courses is available from the assistant to the dean of engineering.

The required 24 units of departmental electives are taken primarily in the senior year, and they permit students to develop depth in specialty areas of their choice. The student's elective course program must be approved by his/her departmental undergraduate adviser. The adviser will check the program to ensure satisfaction of the departmental requirements of depth, breadth, engineering science, and engineering design. A wide variety of elective programs will be considered acceptable. Sample programs include those with emphasis in solid state, in microwaves and communications, in signals and systems, and in computer engineering.

Two matters should be noted: (1) students who fail to attain a grade-point average of at least 2.0 in the major may, at the option of the Department Chair, be denied the privilege of continuing in the major; (2) a large majority of electrical and computer engineering courses have prerequisites which must be completed successfully. Students will not be permitted to take any ECE course if they received a grade of F in one or more of its prerequisites.

Courses required for the pre-major or major, inside or outside of the Department of Electrical and Computer Engineering, cannot be taken for the passed/not passed grading option. They must be taken for letter grades.

Five Year Bachelor of Science/ Master of Science Program

A combined B.S./M.S. program in Electrical Engineering provides an opportunity for outstanding undergraduates to earn both degrees in five years. Additional information about this program is available from the Undergraduate Office, and interested students should inform that office of their interest in the program early in the sophomore year because they need to plan their spring quarter classes differently from other undergraduates.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Admission

The Department offers graduate programs at the M.S. and Ph.D. levels in electrical and computer engineering. In addition, the Department offers a certificate program in electrical and computer engineering for practicing engineers who do not wish to enroll in a full degree program. The graduate programs are open to those who have a bachelor's degree in electrical engineering, computer engineering, computer science, other areas of engineering, or in mathematics, physics, or other related fields of science. Applicants with degrees in fields other than electrical and computer engineering or computer science may be required to complete undergraduate prerequisite courses. Fundamental subject areas required include mathematics through differential equations and advanced calculus, a full year of college-level physics, and introductory computer programming.

All applicants for admission to graduate status are required to present evidence of a high level of technical skill, scholarship, and aptitude for electrical and computer engineering. This evidence normally is provided through a combination of undergraduate transcripts, scores on the verbal, quantitative, and analytical sections (required) and advanced portion (optional) of the Graduate Record Examination, letters of recommendation, and accounts of professional goals and experience. A minimum TOEFL (Test of English as a Foreign Language) score of 560 is required of all international applicants.

The Department emphasizes graduate education at the highest level and intends that most of its graduate students will be enrolled in the Ph.D. program. Admission to the Ph.D. program is open to applicants who hold a master's degree or its equivalent in either electrical and computer engineering or computer science or related fields and who demonstrate unusual ability and promise for professional success. It is also open to applicants of exceptional promise directly on completion of a baccalaureate degree program. Applicants with only a baccalaureate degree who intend to seek the Ph.D. degree should apply for simultaneous admission to the M.S and Ph.D. programs. It should be noted, however, that continuation in the Ph.D. program is dependent upon proof of competency to pursue research at the Ph.D. level and upon obtaining a research supervisor.

Master of Science, Electrical and Computer Engineering

Degree Requirements

Graduate studies toward the M.S. degree are administered under either Plan 1, which requires coursework and a thesis, or Plan 2, which requires coursework and a comprehensive examination. Under either plan, students are required to complete at least 42 units of credit approved by the faculty adviser and the departmental graduate adviser. Under either plan, M.S. degree students must select a program of courses forming a coherent pattern directed toward an educational objective, including both depth in a particular area of specialization and breadth through other course offerings. M.S. students must plan their program of study around one of the four areas of graduate specialization: computer engineering; solid-state; signals and systems; and wave electronics and technology.

Plan 1. The student is required, as part of the overall 42-unit requirement: (1) to complete 34 units, no more than 12 of which can be at the undergraduate level, and (2) to submit an acceptable thesis based on research carried out under 8 units of ECE 598. Information about acceptable courses is available from the graduate adviser.

Plan 2. The student is required: (1) to complete 42 units, no more than 16 of which can be at the undergraduate level, and (2) to pass a comprehensive examination. Further details are available from the graduate adviser.

Doctor of Philosophy, Electrical and Computer Engineering

Degree Requirements

Immediately upon admission to studies toward the Ph.D. degree, students are required to develop a formal study plan which includes both (1) an appropriate level of coursework and special studies to provide depth of knowledge in a specialty area, and (2) additional coursework in two technical areas that are distinct from the specialty area. The study plan must be approved by the faculty adviser and the Department Graduate Adviser and may be modified during the course of the student's program. There is no rigid requirement concerning the total number of units of graduate work that must be taken, but doctoral students are expected to take all available courses in their area of interest that the faculty deems relevant to their programs. In addition, they are expected to take other courses for breadth. There are no foreign language requirements in the program.

All students in the Ph.D. program are required to pass the departmental screening examination. When the examination is passed, the student selects a Ph.D. committee. This committee administers an oral qualifying examination at such time as it deems the student to be adequately prepared and the university residence requirements have been satisfied. After the oral examination has been passed, the student is eligible for advancement to candidacy for the Ph.D. degree.

Students must prepare a dissertation based on original research in a subject area approved by the Ph.D. committee. The dissertation must be defended in an open oral dissertation defense examination.

Certificate Program, Electrical and Computer Engineering

For completion of the certificate program, students are required to take and pass five courses with at least a 3.0 grade-point average. Three of these courses must be at the graduate level, and all courses must be taken for letter grades. Courses specifically required of undergraduate majors cannot be included for credit. Students must complete the requirements for a certificate in three years from the date of admission to the program. Suitable courses within each of the five approved programs are listed below. Students who wish to use courses not listed in this section must secure the approval of the department graduate adviser in advance.

Courses suitable for a certificate in circuits and signal processing:
ECE 124A-B-C, ECE 130C, ECE 145A-B-C, ECE 147B, ECE 149, ECE 152A-B-C-D, ECE 158, ECE 178, ECE 201D, ECE 202A-B, ECE 208A-B-C, ECE 230A-B, ECE 234, ECE 235, ECE 242, ECE 245, ECE 258, ECE 259, ECE 271A-B, ECE 277B, ECE 278A-B, CMPSC 180.

Courses suitable for a certificate in control and communication systems, bioengineering:
ECE 124A-B-C, ECE 145B, ECE 146A-B, ECE 147A-B, ECE 148, ECE 149, ECE 152A-B-C-D, ECE 158, ECE 170, ECE 205A, ECE 230A-B, ECE 231, ECE 234, ECE 235, ECE 240A-B, ECE 242, ECE 243, ECE 247C, ECE 249, ECE 258, ECE 270A-B-C, ECE 271A-B.

Courses suitable for a certificate in computer engineering:
ECE 124A-B-C, ECE 148, ECE 152A-B-C-D, ECE 154, ECE 158, ECE 178, ECE 224A-B, ECE 252A-B-C, ECE 254A-B-C, ECE 256A-B-C-D, ECE 257A-B, ECE 258, ECE 259, ECE 277B, ECE 278, ECE 279A-B, CMPSC 130A-B, CMPSC 162, CMPSC 170, CMPSC 172, CMPSC 174, CMPSC 175, CMPSC 176, CMPSC 180, CMPSC 260, CMPSC 262, CMPSC 270A-B, CMPSC 272, CMPSC 274, CMPSC 276, CMPSC 278A, CMPSC 280.

Courses suitable for a certificate in wave electronics and technology:
ECE 124A-B-C, ECE 144A-B, ECE 145B-C, ECE 162A-B-C, ECE 178, ECE 201A-B-C-D, ECE 202A-B, ECE 208A-B-C, ECE 211A-B, ECE 220A-B-C, ECE 226A-B-C, ECE 260A-B, ECE 278A-B-C, Physics 141, Physics 253.

Courses suitable for a certificate in solid state:
ECE 124A-B-C, ECE 162A-B-C, ECE 211A-B, ECE 213, ECE 215A-B, ECE 216A-B, ECE 220A-B-C, ECE 221A-B, ECE 222, ECE 224A-B, ECE 225, ECE 226A-B-C, ECE 260A-B, Physics 123A-B.

Electrical and Computer Engineering Courses

Many of the ECE courses are restricted to ECE majors only. Please check the quarterly Schedule of Classes. Instructor and quarter offered are subject to change.

LOWER DIVISION

2A-B-C. Circuits, Devices, and Systems
(4-4-4) LONG
Prerequisites: Physics 2, Mathematics 3A-B-C, or consent of instructor. Open to ECE and pre-ECE majors only. Lecture, 3 hours; laboratory, 3 hours.

1. Circuits: natural response, forced response, complete response, sinusoidal steady state, theorems. 2. Electronic devices: principles, linear models, amplifiers, transformers. 3. Systems: feedback, instrumentation. 4. Digital electronics. 5. Laboratory: experimental evaluation of circuits, devices, and systems. Introduction to instrumentation. (F,W,S)

Engineering 3. Computer Solutions of Engineering and Science Problems

(3) STAFF

Prerequisites: Mathematics 3A, can be taken concurrently. Limited to lower-division majors in engineering, or consent of instructor. Not open to students who have completed Computer Science 5FO. Lecture, 2 hours; discussion, 1 hour.

Application of computers to engineering and scientific problems. Provides working knowledge of FORTRAN language programming, using a structured FORTRAN compiler. Students will use the computer. (F)

6A-B. Circuits and Electronics

(3-3) STAFF

Prerequisites: Physics 2, Mathematics 3A-B-C, or consent of instructor. For 6B, 6A is required. Open to engineering majors except ECE and pre-ECE. Lecture, 2 hours; laboratory, 3 hours.

Introduction to basic electrical circuits and electronics. Includes Kirchhoff's laws, network responses, power distribution, diodes, transistor circuits, analog computation, and instrumentation. (W,S)

15. Introduction to Computer Organization

(4) MELLIAR-SMITH

Prerequisites: Engineering 3 or equivalent. ECE 15 is not open for credit to students who have received credit for Computer Science 30 or equivalent. Open to ECE and pre-ECE majors only. Lecture, 3 hours; laboratory 3 hours.

Digital computer organization and introduction to hardware and software concepts. Digital logic circuits, integrated circuits, and digital functions. Data representation. Register transfer, microoperations. Basic computer organization. Elements of computer software: assembly language programming, subroutines, I/O programming, interrupt processing, and aspects of systems programming. (S)

UPPER DIVISION

Engineering 100. Engineering Economic Analysis

(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor. Lecture, 3 hours.

Engineering feasibility factors and engineering economic analysis. Analysis of alternatives and estimates of demands and costs in engineering.

Engineering 101. Ethics in Engineering

(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor. Lecture, 3 hours.

The nature of moral value, normative judgment and moral reasoning. Theories of moral value. The engineer's role in society. Ethics in professional practice. Safety, risk, responsibility. Morality and career choice. Code of ethics. Case studies will facilitate the comprehension of the concepts introduced. (S)

Engineering 103. Technical Writing

(3) STAFF

Prerequisite: upper-division standing in College of Engineering or consent of instructor. Lecture, 3 hours.

Emphasis on planning and writing the kinds of engineering documents that engineers will encounter in the world of work; documents include reports, proposals, professional papers, specifications, and oral technical presentations.

105. Statistical Thermodynamics

(4) KROEMER

Prerequisites: Chemistry 1C, Mathematics 5C, Physics 4, or equivalents; ECE 134. Lecture, 4 hours.

Statistical distribution of energy. Nature of thermal equilibrium, definition of temperature and entropy. Heat and work. Partition functions. Free energy. Chemical potential. Applications: electrons in semiconductors; radiation, electrical noise, lasers; Carnot limits to energy conversion efficiencies; alloys. (F)

107A-B-C. Directed Research

(1-4) STAFF

Prerequisites: consent of instructor. Acceptable for departmental senior electives by petition only. ECE 107A-B-C may be repeated to a maximum of 12 units. Variable hours.

Directed research projects open to qualified undergraduates in electrical engineering or related fields. Research projects are to be arranged by student and staff member. The course is designed to give unusual undergraduates early experience in research. (F,W,S,SS)

113. Systems Analysis and Information System Design

(4) STAFF

Prerequisite: Engineering 3 or Sociology 109A or equivalent; consent of instructor. Same course as Sociology 113. Lecture, 3 hours.

Introduction to principles and techniques involved in the analysis of information-processing requirements of large-scale organizations and the design and development of computer-based information systems. Includes overview of implementation, control, and evaluation phases of system development. (S; may not be offered every year)

124A. VLSI Principles

(4) STAFF

Prerequisites: ECE 134, 137A, and 137B; or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Semiconductor devices and device models, fabrication principles and design rules. Device layout and mask production. (F)

124B-C. Integrated Circuit Design and Fabrication

(4-4) BOWERS

Prerequisite: ECE 124A; or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Theory, fabrication, and characterization of solid state devices and circuits including P-N junctions, capacitors, bipolar and MOS devices. NMOS circuits will be designed, simulated, fabricated, and tested. The physics and performance of VLSI processing steps will be discussed and analyzed using computer simulations. (W,S)

130A-B. Signal Analysis and Processing

(4-4) RHODES

Prerequisites: Mathematics 5A-B. Lecture, 3 hours; discussion, 2 hours.

Analysis of discrete- and continuous-time linear systems in the time and frequency domains. Superposition and convolution. Bilateral and unilateral Laplace and Z transforms. Fourier series, Fourier transforms, discrete Fourier transforms. Filtering, modulation, and sampling. Feedback. (F,W)

130C. Signal Analysis and Processing

(4) LAUB

Prerequisites: ECE 130A-B. Lecture, 3 hours; discussion, 2 hours.

Basic techniques for the analysis of linear models in electrical engineering: Gaussian elimination, vector spaces and linear equations, orthogonality, determinants, eigenvalues and eigenvectors, systems of linear differential equations, positive definite matrices, singular value decomposition. (S)

132. Introduction to Solid State Electronic Devices

(4) MISHRA

Prerequisites: Physics 4, Mathematics 5A, and ECE 2A-B-C, or equivalent, or consent of instructor.

Electrons and holes in semiconductors; Doping (p and n); state occupation statistics; transport properties of electrons and holes; p-n junction diodes; I-V, C-V, and switching properties of p-n junctions; introduction to bipolar transistors, MOSFETs and JFETs.

134. Introductory Field Theory

(4) DAGLI

Prerequisites: Physics 3 or equivalent, Mathematics 5C, or consent of instructor. Lecture, 3 hours; discussion, 2 hours.

Electric and magnetic field concepts and laws. Fundamentals of vector analysis. Dipoles, properties of materials, energy, Maxwell's equations. Laplace, Poisson, and wave equations, and methods for their solution. Plane waves. (F)

137A. Circuits and Electronics I

(4) RODWELL

Prerequisites: ECE 2A-B (2B may be taken concurrently), 130A, 132. Lecture, 3 hours; laboratory, 3 hours.

Analysis of single stage and multistage transistor circuits, including biasing, gain, and impedances. High-frequency and low-frequency analysis of active and passive networks and their resulting transient response (Laplace methods). Analysis and design of feedback circuits. Bode and Nyquist stability criteria.

137B. Circuits and Electronics II

(4) RODWELL

Prerequisites: ECE 2A-B-C (2C may be taken concurrently), 130A, 132. Lecture, 3 hours; laboratory, 3 hours.

Analysis of single stage and multistage transistor circuits, including biasing, gain, and impedances. High-frequency and low-frequency analysis of active and passive networks and their resulting transient response (Laplace methods). Analysis and design of feedback circuits. Bode and Nyquist stability criteria.

140. Probabilistic Methods of Signal and System Analysis

(4) ILTIS

Prerequisite: ECE 130A-B, or consent of instructor. ECE majors only. Lecture, 3 hours; discussion, 2 hours.

Fundamentals of probability, random variables, random processes, spectral analysis, signal analysis in linear systems with random excitation. (F,S)

144A-B. Electromagnetic Fields and Waves

(4-4) DAGLI

Prerequisite: ECE 134 or equivalent, or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Waves on transmission lines, Maxwell's equations, skin effect, propagation and reflection of electromagnetic waves, microwave integrated circuit principles, metal and dielectric waveguides, resonant cavities, antennas. Microwave and optical device examples. Selected laboratory experiments and experience with modern microwave CAD software. (W,S)

145A. Large-Signal Electronics

(5) LONG

Prerequisites: ECE 137A and 137B, or consent of instructor. Open to ECE majors only. Lecture, 3 hours; laboratory, 6 hours.

A study of semiconductor electronic circuits with emphasis on the analysis and design of large-signal amplifiers, oscillators, and wave-shaping circuits. (F)

145B. Communications Electronics

(5) ILTIS

Prerequisites: ECE 145A or consent of instructor. For ECE majors only. Lecture, 3 hours; laboratory, 6 hours.

The analysis and design of solid-state communication circuits. Topics covered will include RF and IF amplifiers, AGC circuits, mixers, and demodulators. (W)

145C. Special Topics in Electronics

(4) RODWELL

Prerequisites: ECE 145B or consent of instructor. Open to ECE majors only. Lecture, 2 hours; laboratory, 6 hours.

Selected topics of current interest in analog electronics. The specific areas covered will vary with class interests. (S)

146A. Analog Communication Theory and Techniques

(4) ILTIS

Prerequisites: ECE 130A-B-C, ECE 140, or consent of instructor. Open to ECE majors only. Lecture, 3 hours; laboratory, 3 hours.

Modulation theory. AM, FM, PM, and analog pulse modulation and demodulation techniques. Noise models in electronic circuits. System noise and performance calculations. (W)

146B. Digital Communication Theory and Techniques

(4) SHYNK

Prerequisites: ECE 130A-B-C, ECE 140, ECE 146A, or consent of instructor. Open to ECE majors only. Lecture, 3 hours; laboratory, 3 hours.

The quantitative measure of information. Introduction to the fundamental theorems of information theory and their implications in system design. Quantization and coding. Pulse code modulation (PCM). Matched filters, PCM modems, elementary decision-theory concepts. Concepts of error detection and correction. Coded PCM systems. Feedback communication systems. (S)

147A. Feedback Control Systems - Theory and Design
(S) SMITH

Prerequisites: ECE 130C or equivalent, or consent of instructor. Open to ECE majors only. Lecture, 3 hours; laboratory, 6 hours.

Feedback systems design, specifications in time and frequency domains. Analysis and synthesis of closed loop systems. Computer aided analysis and design. (F)

147B. Digital Control Systems - Theory and Design
(S) SMITH

Prerequisites: ECE 147A or consent of instructor. Open to ECE majors only. Lecture, 3 hours; laboratory, 6 hours.

Analysis of sampled data feedback systems; state space description of linear systems; observability, controllability, pole assignment, state feedback, observers. Design of digital control systems. (W)

148. Digital Signal Processing Laboratory
(4) GERSHO

Prerequisites: ECE 158. Lecture, 1 hour; laboratory, 9 hours.

Principles and techniques of real-time signal processing. Experiments in processing of signals with applications to telecommunications, speech, and audio using a single-chip programmable signal processor. A/D and D/A conversion, signal generation, adaptive gain control, digital filtering, and LMS adaptive filtering. (S)

149. Active and Passive Network Synthesis
(4) MITRA

Prerequisites: ECE 137A and 137B or consent of instructor. Open to ECE majors only. Lecture, 3 hours; discussion, 1 hour.

This course combines the areas of electronics and network theory in the subject of passive and active network design. Topics include passive synthesis, optimization techniques, approximations to ideal filters, distributed networks, sensitivity and the modern design techniques, and applications of active filters. (F)

150. Continuous System Simulation
(4) RHODES

Prerequisites: Mathematics 5A or equivalent, ECE 2A-B-C or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

An introduction to the simulation of continuous systems via analog, hybrid, and digital computation. Relative advantages and disadvantages of analog/hybrid/digital techniques. Application to typical engineering problems in dynamics, controls, and systems optimization. (S; may not be offered every year)

152A. Logic Design and Switching Theory
(5) STAFF

Prerequisites: ECE 15 or Computer Science 30 or consent of instructor. Open only to engineering majors and computer science majors. Lecture, 3 hours; laboratory, 6 hours.

Boolean algebra, switching functions. Application of Boolean algebra to the design and analysis of combinational logic nets; minimization procedures. Analysis and synthesis of sequential switching circuits, synchronous and asynchronous operation, state minimization, hazards, and races. (F,W,SS)

152B. Digital Design Methodologies
(5) STAFF

Prerequisites: ECE 152A or consent of instructor. Open only to engineering majors and computer science majors. Lecture, 3 hours; laboratory, 6 hours.

Design methodologies of digital systems, the register and processor levels. Design of functional subsystems, including arithmetic processors, hardwired and microprogrammed control units, memory systems, and bussing systems. System organization including communication, input/output systems, and multiple CPU systems. (W)

152C. Microcomputer-Based Digital Design
(5) STAFF

Prerequisite: ECE 152A, or consent of instructor. Open only to engineering majors and computer science majors. Lecture, 3 hours; laboratory, 6 hours.

Merits of microcomputer-based design. Microcomputer registers and data manipulation. Microcomputer hardware including processor, memory, and I/O support devices. Microcomputer system concepts; memory mapping, interrupts, DMA, I/O systems, and multiple micro-systems. Hardware and software development procedures. Application examples. (S)

152D. Advanced Microcomputer-Based Design
(5) STAFF

Prerequisite: ECE 152A, and ECE 152C or consent of instructor. Open to engineering majors and computer science majors only.

Designing and prototyping 16/32-bit microprocessor-based systems to meet given product specifications. Emphasis on computer system design, hardware prototyping, system testing, debugging, and evaluation, software development, and documentation.

154. Introduction to Computer Architecture
(4) BUTNER

Prerequisite: ECE 152A or consent of instructor. Open to ECE and Computer Science majors only. Lecture, 4 hours.

Computer architecture representation methods. Classical processor/memory/switch aspects of computer architecture; instructions, addressing, interpretation and control, I/O systems, and memory hierarchies. Aspects of systems architecture: protection mechanisms and hardware aids to supervision, specialized processors, and multi-processor/computer systems. Evaluation methods and system analysis. (F,S)

158. Digital Signal Processing
(4) MITRA

Prerequisites: ECE 130A-B, or consent of instructor. Mathematics 124A is recommended but not required. Open to ECE majors only. Lecture, 3 hours; laboratory, 3 hours.

Discrete signals and systems, convolution, z-transforms, discrete Fourier transforms, digital filters. (F)

162A. Quantum Description of Electronic Materials
(4) HU

Prerequisites: ECE 130A, 130B, 134, 105. Open to ECE majors only; or consent of instructor.

Electrons as particles and waves, Schrodinger's equation and illustrative solutions. Tunnelling, atomic structure, the exclusion principle and the periodic table. Bonds, free electrons in metals, periodic potentials and energy bands. (F)

162B. Fundamentals of the Solid State
(4) MERZ

Prerequisites: ECE 162A. Open to ECE majors only; or consent of instructor.

Crystal lattices and the structure of solids, with emphasis on semiconductors. Lattice vibrations, electronic states and energy bands. Electrical and thermal conduction. Dielectric and optical properties. Semiconductor devices: diffusion, p-n junctions and diode behavior. (W)

162C. Optoelectronic Materials and Devices
(4) MERZ

Prerequisites: ECE 162A, 162B. Open to ECE majors only, or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Optical transitions in solids. Direct and indirect gap semiconductors. Luminescence. Excitons and photons. Fundamentals of optoelectronic devices: semiconductor lasers, LED's photoconductors, solar cells, photo diodes, modulators. Photoemission. Integrated optics. (S)

170. Introductory Biomedical Engineering
(3) STAFF

Prerequisites: senior standing in engineering. Lecture, 3 hours.

Survey of application of engineering principles and methods to problems arising in the life sciences (medicine and biology); analysis of the function and principles of operation of living systems; modeling and simulation of physiological regulatory systems; physiological philosophy of instrument design; etc.

177. Visual System Analysis
(4) STAFF

Prerequisites: open to upper-division students only; open to non-majors; calculus, linear algebra and some computer programming experience recommended; consent of instructor. Same course as Psychology 130. Lecture,. 3 hours.

A systems approach to understanding vision. Topics will typically include transduction, signal detection, space and motion perception, color vision, and pattern classification. Special emphasis will be placed on comparing computational models with quantitative description of human visual performance.

178. Fundamentals of Computer Image Processing
(4) MANJUNATH

Prerequisites: ECE 15 and ECE 130A-B, or consent of instructor. Open to ECE majors only. Lecture, 3 hours; discussion, 1 hour.

Basic concepts in image processing. Techniques, capabilities, and limitations with emphasis on use of digital computer but also of optical and analog systems. Image sampling, reconstruction, enhancement, restoration, data extraction, and coding. Some hands-on laboratory experience is offered. (W)

181A. Introduction to Robotics: Robot Mechanics
(4) MANJUNATH

Prerequisites: ME 163A; ECE 147A or ME 155A-AL; or consent of instructor. Prerequisites may be taken concurrently. Same course as ME 170A. Lecture, 3 hours; laboratory, 3 hours.

Overview of robot kinematics and dynamics. Structure and operation of industrial robots. Robot performance: work space, velocity, precision, payload. Comparative discussion of robot mechanical designs. Actuators. Robot coordinate systems. Kinematics of position. Dynamics of manipulators. (F; may not be offered every year)

181B. Introduction to Computer Vision
(4) MANJUNATH

Prerequisite: Same course as Computer Science 181B.

Overview of image processing, pattern recognition; image formation, binary images; edge detection, image segmentation, introduction to textured image analysis, optical flow, depth from stereo, shape from shading, shape from motion, shape representation techniques, issues in object recognition, case study of some vision systems.

181C. Introduction to Robotics: Robot Control
(4) STAFF

Prerequisites: ECE 147A or ME 155A. Lecture, 3 hours; laboratory, 3 hours.

Overview of robot control technology from open-loop manipulators and sensing systems, to single-joint servovalves and servomotors, to integrated adaptive force and position control using feedback from machine vision and touch sensing systems. Design emphasis on accurate tracking accomplished with minimal algorithm complexity. (S; may not be offered every year)

192. Projects in Electrical and Computer Engineering
(4) STAFF

Prerequisite: consent of instructor. May be repeated for credit with consent of instructor. Discussion, 2 hours; laboratory, 6 hours.

Projects in electrical and computer engineering for advanced undergraduate students. (F,W,S,SS)

193. Internship in Industry
(1-8) STAFF

Prerequisites: 3.0 grade point average or consent of instructor. Prior departmental approval needed. Not more than 4 units may be used as departmental electives. May be repeated to 12 units. Field, 1-8 hours.

Special projects for selected students. Offered in conjunction with engineering practice in selected industrial and research firms, under direct faculty supervision. (F,W,S,SS)

194AA-ZZ. Group Studies in Electrical and Computer Engineering

(1-5) STAFF

Prerequisite: consent of instructor. Variable hours.

Group studies intended for small number of advanced students who share an interest in a topic not included in the regular departmental curriculum. Topics covered by these group studies are coded as follows: A. Circuits. B. Systems Theory. C. Communications Systems. D. Control Systems. E. Signal Processing. F. Solid State. G. Fields and Waves. H. Quantum Electronics. I. Microwave Electronics. J. Switching Theory. K. Digital Systems Design. L. Computer Architecture. M. Computer Graphics. N. Pattern Recognition. O. Microprocessors and Microprocessor-based Systems. P. Simulation. Q. Imaging Systems and Image Processing. R. General. S. Speech. T. Robot Control. U. Optoelectronics. V. Scientific Computation. W. Computer Network. (Check with department for quarters offered.)

196. Undergraduate Research

(2-4) STAFF

Prerequisite: Students must: (1) have attained upper-division standing, (2) have a minimum 3.0 grade-point average for the preceding three quarters, (3) have consent of instructor. May be repeated for up to 12 units. Not more than 4 units may be applied to departmental electives.

Research opportunities for undergraduate students. Students will be expected to give regular oral presentations, actively participate in a weekly seminar, and prepare at least one written report on their research.

199. Independent Studies in Electrical and Computer Engineering

(1-5) STAFF

Prerequisites: Students must 1) have attained upper division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in electrical and computer engineering; and 4) have consent of instructor. Students are limited to five units per quarter and 30 units total in all 198-199 courses combined.

Directed individual study, normally experimental.

GRADUATE COURSES

201A-B. Electromagnetic Theory

(3-3) DAGLI

Prerequisite: ECE 144A-B or equivalent. Lecture, 3 hours.

Fundamental theorems and techniques for treatment of electromagnetic boundary value and radiation problems. Perturbational, variational, and computer-numerical methods, with microwave engineering examples. (F,W)

201C. Antennas

(3) STAFF

Prerequisites: ECE 144A-B or equivalent, or consent of instructor. Offered in alternate years with ECE 201D. Lecture, 3 hours.

Classical and computer-numerical methods for analysis and design of antennas. Single-element antennas, antenna arrays and analysis of mutual-impedance effects, aperture antennas, and frequency independent antennas. (S)

201D. Microwave Circuits

(4) STAFF

Prerequisites: ECE 144A-B, ECE 144B may be taken concurrently, or consent of instructor. Offered in alternate years with ECE 201C. Lecture, 3 hours; project, 1 hour.

Theory and design of microwave and mm-wave filters, directional couplers, and optimum, wideband impedance-matching structures as needed for coupling to solid-state (and other) devices. Includes experience with modern microwave CAD software. Some microstrip circuits are designed and tested. (S; offered alternate years)

202A. High-Frequency Transistor Circuits

(4) DAGLI

Prerequisites: ECE 137A or consent of instructor. Lecture, 3 hours; design project, 1 hour.

Techniques for the design of transistor circuits at high frequencies. Topics include transistor high-frequency figures of merit, stability factors, the Linvill design technique, and the use of scattering parameters in amplifier design. (F)

202B. Microwave Solid-State Electronics

(4) DAGLI

Prerequisite: ECE 202A or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Selected topics in microwave electronics such as parametric amplifiers, tunnel diode amplifiers, frequency multipliers, transferred electron devices, and IMPATT and TRAPATT devices. (W; offered alternate years)

205A. Theory of Information

(4) ROSE

Prerequisites: ECE 140 or equivalent, or PSTAT 120A-B, or consent of instructor. Lecture, 4 hours.

The concept of information and its quantitative measure, description of information sources in terms of Markov processes, discrete noiseless channels, channel capacity, noisy channels, continuous channels, signal design for noise immunity, error detection coding, and other applications of information theory in communications. (F)

207. Research Projects or Independent Studies

(1-6) STAFF

Prerequisite: consent of instructor. Variable hours.

Graduate research projects or independent studies to be arranged between students and staff members. See M.S. degree requirements, plans I and II, regarding number of units which may be used for M.S. degree. (F,W,S,SS)

208A. Fourier Optics

(4) YEH

Prerequisites: ECE 144A-B-C.

Diffraction theory, lenses and Fourier transforms, imaging, spatial filtering, correlation, convolution, holography, volume holograms.

208B. Statistical Optics

(4) YEH

Prerequisites: ECE 144A-B-C and 208A.

Statistical properties of light, stochastic processes, spatial/temporal coherence, high-order coherence, interferometers, imaging with incoherent light, speckle, imaging through random media, noise and photon statistics.

208C. Optical Computing

(4) YEH

Prerequisites: ECE 144A-B-C and 208A-B.

Devices and media for optical computing, optical pattern recognition, spatial light modulators, optical storage, optical matrix algebra, associative memory, optical interconnection, optical computers and optical neural networks.

211A. Engineering Quantum Mechanics I

(4) KROEMER

Prerequisites: ECE 105 and 162A-B, or equivalents; or consent of instructor. Same course as Materials 211A. Lecture, 4 hours.

Wave-particle duality; bound states; uncertainty relations; expectation values and operators; variational principle; eigenfunction expansions; perturbation theory I. Treatment matches needs and background of ECE and materials students emphasizing solid state or quantum electronics. (W)

211B. Engineering Quantum Mechanics II

(4) KROEMER

Prerequisite: ECE 211A, ECE 215, or equivalent; or consent of instructor. Same course as Materials 211B. Lecture, 4 hours.

More advanced continuation of 211A: symmetry and degeneracy; electrons in crystals, angular momentum; perturbation theory II; transition probabilities; quantized fields and radiative transitions; magnetic fields; electron spin; indistinguishable particles. (S)

213. Crystal Growth and Thin Film Epitaxy

(3) PETROFF

Prerequisite: consent of instructor. Same course as Materials 213. Lecture, 3 hours.

Nucleation and epitaxy: homogeneous and heterogeneous epitaxy. Growth mechanism, defect creation. Kinetics and thermodynamics of crystal growth for: liquid phase epitaxy, vapor phase epitaxy, and molecular beam epitaxy of metals and semiconductors.

215A. Fundamentals of Electronic Solids I

(3) STAFF

Prerequisite: ECE 162 or consent of instructor. Same course as Materials 206A.

Introduction into the physics of semiconductors for beginning engineering graduate students. Crystal structure. Reciprocal lattice and crystal diffraction. Electrons in periodic structures. Energy and bands. Semiconductor electrons and probes, Fermi Statistics.

215B. Fundamentals of Electronic Solids II

(3) STAFF

Prerequisite: ECE 162 or consent of instructor. Same course as Materials 206B.

Phonons, electron scattering, electronic transport, selected optical properties, heterostructures, effective mass, quantum wells, two-dimensional electron gas, quantum wires, deep levels, crystal binding.

216A. Defects in Materials

(3) PETROFF

Prerequisite: consent of instructor. Same course as Materials 216A and Nuclear Engineering 221. Lecture, 3 hours.

Defects in materials: crystal structure and atomic bonding in crystals. Point defects and diffusion. Dislocation theory in cubic and hexagonal metals. Dislocations. Point defect interactions. Planar defects, grain boundaries in metals. (F)

216B. Defects in Semiconductors

(3) PETROFF

Prerequisites: ECE 162A-B or consent of instructor. Same course as Materials 216B. Lecture, 3 hours.

Structural and electronic properties of elementary defects in semiconductors. Point defects and impurity complexes. Deep levels. Dislocations and grain boundary electronic properties. Measurement techniques for radiative and non-radiative defect centers. (W)

217. Molecular Beam Epitaxy and Band Gap Engineering

(3) GOSSARD

Prerequisites: ECE 162A-B and 213 or consent of instructor. Same course as Materials 217. Lecture, 3 hours.

Fundamentals and recent research developments in the growth and properties of thin crystalline films of electronic and optical materials by the process of molecular beam epitaxy. Artificially structured materials with quantized electron confinement and artificially engineered electronic band structure properties.

220A. Semiconductor Device Processing

(4) LONG

Prerequisites: ECE 124B-C or consent of instructor. Same course as Materials 215A. Lecture, 3 hours; discussion, 1 hour.

Intensive theoretical and laboratory instruction in solid-state device and integrated circuit fabrication. Topics include (1) semiconductor material properties and characterization; (2) phase diagrams; (3) diffusion; (4) thermal oxidation; (5) vacuum processes; (6) thin-film deposition; (7) scanning electron microscopy. Both gallium arsenide and silicon technologies are presented. (F)

220B-C. Semiconductor Device Processing

(4-4) HU

Prerequisite: ECE 220A or consent of instructor. Same course as Materials 215B-C. Lecture, 3 hours; discussion 1 hour.

Continued theoretical and laboratory instruction in the fundamentals, the design, the fabrication, and the characterization of junction and field-effect devices. Topics will include bipolar characterization, design, fabrication, and testing. The laboratory effort initiated in ECE 220A will be continued in these two quarters. (W,S)

221A. Semiconductor Device Physics I

(4) KROEMER

Prerequisites: ECE 105 and 162A-B, or consent of in-

structor. Lecture, 4 hours.

Band diagrams of p-n junctions and heterojunctions; current flow by drift and diffusion; bipolar transistors; recombination and generation. Schottky barriers; heterostructures. (W; offered alternate years)

221B. Semiconductor Device Physics II
(4) KROEMER

Prerequisites: ECE 215 or equivalent, ECE 221A; or consent of instructor. Lecture, 4 hours.

More advanced continuation of ECE 221A: field effect transistors, quantum wells and superlattices; tunneling; avalanche breakdown; physical limitations of bipolar and field effect transistors; two-dimensional current flow problems. (S; offered alternate years)

222. Principles of VLSI Circuit Design
(4) STAFF

Prerequisite: graduate standing in ECE or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Students will make use of computer-aided graphics to undertake mask layout. They will employ computer simulations such as SPICE to predict device performance. For students with fabrication comprehension, the course may be followed with fabrication projects. (W)

224A. VLSI Project Design
(4) BUTNER

Prerequisites: ECE 152A and ECE 154; or consent of instructor. Lecture, 4 hours.

Organization, planning, circuit design, mask layout, simulation, and analysis of Very Large-Scale Integrated circuits (VLSI circuits). Application of computer-aided design tools and techniques. Design of a substantial NMOS or CMOS VLSI project. (F)

224B. VLSI Project Testing
(4) BUTNER

Prerequisite: ECE 224A or equivalent. Lecture, 2 hours; laboratory, 2 hours.

Test equipment and testing techniques. Methods for diagnosing design problems. Students perform laboratory testing of their fabricated designs from ECE 224A. (S)

225. Gallium Arsenide Integrated Circuit Design
(4) LONG

Prerequisites: ECE 124A-B-C, 137A, and 152A; or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Introduction to the design of high-speed digital or wide-band analog integrated circuits using gallium arsenide MESFETS. Device operation and models, logic circuit design, layout rules, and CAD tools are covered. A substantial project is required. (S)

226A. Optoelectronic Devices
(4) COLDREN

Prerequisites: ECE 215, 260A, or consent of instructor. Lecture, 4 hours.

Fundamentals of semiconductors as used in optoelectronic devices, including optical absorption, luminescence, and stimulated emission. Emphasis on semiconductor lasers and use of rate-equation analysis. Quantum-well lasers. (W)

226B. Guided Wave Optics
(4) COLDREN

Prerequisites: ECE 144A-B, 226A, or consent of instructor. Lecture, 4 hours.

Theory of dielectric waveguides, directional couplers and gratings. Scattering theory, coupled-mode analysis and techniques for mode launching. Applications to semiconductor lasers that use gratings (e.g., DFB and DBR). Materials and devices suitable for integrated optoelectronics. (S)

226C. Optical Fiber Communication
(4) COLDREN

Prerequisites: ECE 162C or consent of instructor. Lecture, 4 hours.

Optical fiber systems including transmitter, transmission medium, and receiver components. Optical fiber structures and dispersion and loss characteristics; sources, source-to-fiber coupling; photodetectors; optical receivers; transmission link analysis; local area networks. (F)

230A-B. Linear Systems I, II
(4-4) RHODES

Prerequisites: A: ECE 234. B: ECE 140, 230A, 234. Lecture, 4 hours.

Internal and external descriptions. Solution of state equations. Controllability and observability realizations. Pole assignment, observers; modern compensator design. Disturbance localization and decoupling. Least-squares control. Least-squares estimation; Kalman filters; smoothing. The separation theorem; LQG compensator design. Computational considerations. Selected additional topics. (W,S)

231. Numerical System Theory
(4) LAUB

Prerequisite: ECE 234 or consent of instructor. Lecture, 4 hours.

Linear system theory in finite (precision and range) arithmetic and implementations as mathematical software; linear equations, least squares, singular value decomposition, (generalized) eigenvalue/eigenvector problems; selected applications in control and system theory. (S)

232. Robust Control: Theory and Application
(4) SMITH

Prerequisites: ECE 130C and 230A. Concurrent enrollment in ECE 230B required. Consent of instructor.

Robust control theory; uncertainty modeling; stability of systems in the presence of norm-bounded perturbations; structured singular value analysis; induced norm performance problems; H-infinity control theory; model reduction; computer simulation based design project involving practical problems.

234. Analysis of Linear Models
(4) LAUB

Prerequisite: graduate standing; ECE 130C or the equivalent is strongly recommended but not required. Lecture, 3 hours.

Graduate-level matrix theory with emphasis on applications in engineering systems; geometric aspects of linear algebra; matrix factorizations; analysis and design techniques for discrete- and continuous-time linear lumped parameter models. (F)

235. Stochastic Processes in Engineering
(4) ILTIS

Prerequisites: ECE 140 or the equivalent. Graduate standing. Lecture, 4 hours.

A first-year graduate course in stochastic processes, including: review of basic probability; Gaussian, Poisson, and Weiner processes; wide-sense stationary processes; covariance function and power spectral density; linear systems driven by random inputs; basic Weiner and Kalman filter theory. (W)

236. Data Communication Networks
(4) VARVARIGOS

Prerequisite: ECE 140 or consent of instructor.

Layered network architecture. Point to point protocols. Queueing theory for data networks. Multiaccen communications; cellular telephony. Routing in data networks. Flow control. (S)

237. Nonlinear Control Design
(4) KOKOTOVIC

Prerequisite: ECE 236.

Stabilizability by linearization and by geometric methods. State feedback design and input/output linearization. Observability and output feedback design. Singular perturbations and composite control. Backstepping design of robust controllers for systems with uncertain nonlinearities. Adaptive nonlinear control. (S)

240A. Optimal Estimation and Filtering
(4) SHYNK

Prerequisites: ECE 234 and 235 (may be taken concurrently) or equivalent, or consent of instructor.

Optimal estimation concepts and theory (minimum variance, least-squares, and maximum likelihood estimation), optimal recursive algorithms for discrete- and continuous-time filtering of noisy signals and data. Wiener and Kalman filters, stability of recursive optimal filtering algorithms, modeling errors in recursive filters.

240B. Detection Theory
(4) ILTIS

Prerequisite: ECE 234, 235, or equivalent, or consent of instructor.

Hypothesis testing and its applications to the formulation of decision rules for the "optimal" detection of signals in a noisy environment. Selection of optimality criteria, the derivation of optimum receivers, applications in radar and digital communications. (S)

242. Digital Coding of Analog Signals
(4) GERSHO

Prerequisites: ECE 146B, some background in estimation theory, or consent of instructor. Lecture, 3 hours.

Principles and techniques for encoding an analog signal into digital format. Basic quantization theory, uniform, nonuniform, robust, and optimal quantization. Differential and adaptive coding methods, transform coding, linear predictive coding; applications to speech and image coding. (F)

243. Digital Communication Theory
(4) SHYNK

Prerequisites: ECE 146B and 235 (may be taken concurrently), or consent of instructor. Lecture, 4 hours.

Review of probability and random waveforms, optimum receiver principles, efficient signaling, bounds on error probability, channel capacity; emphasis on geometric approach to signal description. (S; offered alternate years)

244. Topics in Signal Compression
(4) GERSHO

Prerequisite: ECE 242.

Theory and applications of low rate signal coding. Topics may include asymptotic quantization and distortion-rate theory, adaptive, finite-state, and constrained vector quantization. Multichannel prediction, tree/trellis coding, variable-rate methods, and applications from audio and visual signal compression.

245. Adaptive Filter Theory
(4) SHYNK

Prerequisite: ECE 158, 234, and 235, or consent of instructor. Lecture, 4 hours.

Theory and analysis of adaptive filters. Optimal filtering, linear prediction, method of least squares. Steepest-descent and Newton search methods, gradient estimation, LMS adaptive algorithm, recursive least squares. Gradient and least-squares lattice algorithms for joint-process estimation. Convergence analysis, stability conditions, time constants, misadjustment. (F; offered in alternate years.)

247C. Systems Identification
(4) KOKOTOVIC

Prerequisites: ECE 240A and concurrent enrollment in ECE 230B, or consent of instructor. Lecture, 4 hours.

Equivalent system models and canonical forms for state equations, impulse- and frequency-response identification methods, state model identification methods, application to selected problems. (S)

249. Adaptive Control Systems
(4) KOKOTOVIC

Prerequisites: graduate standing and ECE 230A, or consent of instructor. Lecture, 4 hours.

Liapunov stability of nonlinear systems. Hyperstability, passivity, and related stability concepts. Polynomial representations of linear systems. Recursive parameter estimation. Stability of selected adaptive control algorithms. Averaging theory. Instability mechanisms in adaptive control. Analysis of selected robust adaptive control algorithms. (F)

252A. Sequential Machines and Automata Theory
(4) STAFF

Prerequisite: ECE 152A or consent of instructor. ECE 252A-B-C taught every year. Lecture, 4 hours.

Structure of sequential machines, covers, partitions, decomposition, and synthesis of multiple machines. State identification and fault detection experiments. Memory characteristics of finite automata. Linear sequential machines. Finite-state recognizers, regular expressions, and regular sets corresponding to transition graphs. (F)

252B. Computer Arithmetic
(4) PARHAMI

Prerequisites: ECE 152A-B or consent of instructor. Lecture, 4 hours.

Basic and advanced arithmetic algorithms for hardware realization. Unconventional number representation systems. High-speed arithmetic circuits. Limits to fast arithmetic. Pipelining and systolic arithmetic. Special-purpose arithmetic processors. Speed/cost tradeoffs. Error control techniques. (F)

252C. Advanced Topics in Digital System Design
(4) STAFF
Prerequisites: ECE 152A-B or consent of instructor. Lecture, 4 hours.

Digital system design utilizing microprocessing and associated LSI devices. Hardware and software design methodologies of mini/microcomputers for dedicated applications. Design considerations for distributed mini/microcomputer systems. Microprogrammed mini/microsystems. (S)

254A. Advanced Computer Architecture: Supercomputers
(4) BUTNER
Prerequisites: ECE 154.

Design and application aspects of high-performance uniprocessors. Memory design issues: cache memories, address translation, interleaving. Processor design issues: instruction sets, pipelining, vector processing. Software issues: explicit/implicit vectorization, vector-processing languages, optimizing compilers. Case studies of designs and applications.

254B. Advanced Computer Architecture: Parallel Processing
(4) PARHAMI

Specification, implementation, control, and optimization of parallelism. Array processors. Shared-memory multiprocessors. Interconnection networks. Data-driven processing. Systolic arrays and other special-purpose parallel systems. Abstract models of parallel systems and their physical realization. Parallel algorithm optimality and efficiency.

254C. Advanced Computer Architecture: Distributed Systems
(4) MELLIAR-SMITH
Prerequisite: ECE 254A or consent of instructor.

Multicomputers and distributed architectures. Message-based asynchronous computations. Distributed algorithms and their performance. Hardware issues: nodes, links, and communication mechanisms. Control issues: synchronization, global state determination, distributed consensus, and fault tolerance. Software issues: operating systems and languages.

256A. Introduction to Design Automation
(4) MAREK-SADOWSKA
Prerequisites: ECE 124A or ECE 224A; knowledge of C language; Algorithms and Data Structures, equivalent to Computer Science 130A-B.

Overview of physical level design automation. Partitioning, placement, routing and structured design of VLSI and PC-board structures. Techniques will include graph theoretic algorithms, integer linear programming, force-directed and simulated annealing neuristics. (F)

256B. Logic Design Automation
(4) BREWER
Prerequisite: ECE 256A or consent of instructor. Lecture, 3 hours; laboratory, 2 hours.

CAD algorithms for VLSI logic and module level design. Special attention paid to timing, area, and power trade-offs. Cell design systems and associated lab with state of the art VLSI design tools. (W)

256C. Advanced VLSI Architecture and Design
(4) BREWER
Prerequisites: ECE 224A, 256A, 256B, or ECE 124A and instructor permission.

Large Scale VLSI design with attention to performance constraints in real-world designs. Topics include: circuit modeling, communication parasitics, architecture optimization, and packaging. Large scale project will be fabricated using silicon compilation tools.

256D. Algorithmic Logic Synthesis
(4) MAREK-SADOWSKA
Prerequisite: ECE 256A.

Companion course for ECE 256B. Algorithmic extension of logic synthesis and techniques. Topics covered include: two and multilevel minimization, technology mapping, logic partitioning, and testable logic.

257A. Fault-Tolerant Computing
(4) KELLY
Prerequisites: ECE 152A-B or consent of instructor. Lecture, 3 hours, plus individual project.

Fundamental concepts of dependable computing. Logical fault models. Dependability modeling and evaluation. Fault-tolerance building blocks, e.g., dynamic and standby redundancy, information coding. A paradigm for designing fault-tolerant systems. Introduction to fault-tolerant software and systems. (F)

257B. Dependable Systems
(4) KELLY
Prerequisite: ECE 257A or consent of instructor. Lecture, 3 hours, plus individual project.

Achieving dependable software through fault tolerance. Design diversity concepts, experience, and experiments. Dependable systems design paradigm. Categories of fault-tolerant systems: long-life systems, real-time systems, and high-availability systems. Case studies. (W)

258. Advanced Digital Signal Processing
(4) MITRA
Prerequisite: ECE 158 or consent of instructor. Lecture, 4 hours.

Digital filter design, discrete random signals, effects of finite word length arithmetic (error analysis), power spectrum estimation. (W)

259. Digital Speech Processing
(4) GERSHO
Prerequisite: ECE 158, 242, or consent of instructor. Lecture, 4 hours.

Speech sounds, acoustic phonetics, speech production and perception. Digital filter modeling of the vocal tract as a lossless tube. Short-time characteristics of speech in the time and frequency domains. Waveform and linear predictive coding of speech. Speech synthesis and recognition. (S; offered alternate years)

260A. Principles of Quantum Electronics
(4) COLDREN
Prerequisites: ECE 144A, 162C, or consent of instructor. Lecture, 4 hours.

Energy levels in atoms, ions, and molecules. Interaction between radiation and quantized systems. Stimulated emission devices. Optical resonators. Lasers. (F)

260B. Linear and Non-linear Optics
(4) YEH
Prerequisite: ECE 260A or consent of instructor. Lecture, 4 hours.

Dielectric properties of materials; birefringence; linear electro-optic effect; electro-optical devices; non-linear optical effects and devices; phase-conjugate optics. Optical properties of semiconductor quantum-well structures. (W; offered alternate years)

270A-B-C. Physiological Basis of Biomedical Engineering
(3-3-3) STAFF
Prerequisite: undergraduate course in control systems, or consent of instructor. Lecture, 3 hours.

Provides an intensive presentation of the physiology of a single-organ system and the application of this knowledge to engineering concepts. Systems covered will vary with student interest. Examples are cardiovascular, respiratory, renal, endocrine, metabolism, and transport systems. (F,W,S; may not be offered every year)

271A. Numerical Search Methods I
(4) LAUB
Prerequisite: ECE 234 (may be taken concurrently) or consent of instructor. Lecture, 4 hours.

Types and sizes of numerical search problems; linear problems, linear programming, the simplex search method, duality. Unconstrained nonlinear problems, basic properties of solutions and algorithms, global convergence, convergence rate, and complexity considerations. Computational experiments on practical problems. (F)

271B. Numerical Search Methods II
(4) LAUB
Prerequisite: ECE 271A or equivalent, or consent of instructor. Lecture, 3 hours.

Constrained nonlinear problems, basic properties of solutions and algorithms. Primal, penalty and barrier, cutting plane, and dual methods. Forward and backward dynamic programming methods. Convergence rate and complexity considerations. Computational experiments on practical problems. (W)

275. Physical Principles of Medical Imaging
(3) MCFARLAND
Prerequisite: consent of instructor. Same course as Nuclear Engineering 205.

Principles of imaging methods using ionizing and nonionizing radiation and ultrasound. Emphasis is placed on the fundamental physics and mathematics involved in image formation including basic interactions, data acquisition and reconstruction; includes planar imaging, multidimensional tomography (CAT, PET, NMR, SPECT).

277A. Neural Networks Theory
(4) ROSE
Prerequisites: ECE 130C and 140, or consent of instructor.

Discrete and continuous feedback (Hopfield) models. Feedforward models. Capacity bounds and estimates. Supervised learning: perceptrons, back-propagation, Boltzmann machine. Unsupervised learning: self-organization and hierarchical clustering by stochastic and deterministic methods. Generalizing from examples and the Vapnik-Chervonenkis dimension.

277B. Pattern Recognition
(4) GERSHO
Prerequisites: ECE 130C, 140, or consent of instructor. Lecture, 4 hours.

Fundamentals of the theory and design of pattern recognition systems. Discriminant functions and clustering algorithms. Statistical and trainable classifiers. Single- and multiple-layer perceptrons. Neural network structures and learning algorithms. Feature extraction and syntactic methods. (W)

278A. Digital Image Processing
(4) MITRA, MANJUNATH
Prerequisite: ECE 158 or equivalent, ECE 178, or consent of instructor.

Two-dimensional signals and systems. Two-dimensional Fourier and z-transforms. Discrete Fourier transform, two-dimensional digital filters. Image processing basics, image enhancement and restoration. Special image processing software available for laboratory experimentation. (W)

278B. Selected Topics in Image Processing
(4) MANJUNATH
Prerequisite: ECE 278A.

An advanced course in DIP: topics to be covered include edge detection, random fields and application to image analysis including textures, image reconstruction.

278C. Imaging Systems
(4) LEE
Prerequisite: ECE 158 and 178.

Generalized holography, backward techniques, resolution limit, X-ray tomography, diffraction tomography, NMR imaging, synthetic-aperturer radar, active sonar imaging, acoustic microscopy, imaging algorithms, motion estimation and tracking.

279A. Computer System Performance Evaluation
(4) MELLIAR-SMITH
Prerequisites: ECE 140, ECE 154, Computer Science 170, or consent of instructor.

Overview of the evaluation of computer system performance. Measurement, simulation and analytic techniques for performance analysis. System work load characterization. Examples of performance evaluation for system selection, tuning, and design. Evaluation of program performance.

279B. Queuing Theory and Applications
(4) MELLIAR-SMITH
Prerequisite: ECE 140 or consent of instructor.

Discrete- and continuous-time Markov chains, birth-death processes, birth-death queuing systems in equilibrium, Markovian queues in equilibrium, results from M/G/1, G/M/1 queues.

281A. Robot Motion
(4) STAFF

Prerequisite: ECE 181A-B-C or equivalent, or consent of instructor. Lecture, 4 hours.

Advanced course on the mathematics, dynamics, and control of robot systems. Homogeneous transformations, kinematic and dynamic equations and their solutions, motion trajectories, static forces, compliance, programming, position, and force control. (W; may not be offered every year)

281B. Advanced Topics in Computer Vision
(4) MANJUNATH

Prerequisite: ECE 181B, or consent of instructor. Lecture, 3 hours; Same course as Computer Science 281B.

Advanced topics in computer vision: image sequence analysis, spatio-temporal filtering, camera calibration and hand-eye coordination, robot navigation, shape representation, physically-based modeling, multi-sensory fusion, biological models, expert vision systems, and other topics selected from recent research papers. (S)

293. Internship in Industry
(1-6) STAFF

Prerequisite: prior departmental approval needed. May be repeated to a maximum of 6 units. Variable hours.

Special projects for selected students. Offered in conjunction with engineering practice in selected industrial and research firms, under direct faculty supervision. (F,W,S,SS)

501. Techniques of Engineering Teaching
(2) STAFF

Prerequisites: consent of graduate adviser. This course is required for new teaching assistants, and may be taken only once. No unit credit allowed toward advanced degree. S/U grading only. Field, 4 hours.

An initial 1-2 day workshop on teaching techniques, followed by practical experience in teaching, video-taping, and meetings with instructional consultation staff to improve techniques. (F)

502. Teaching of Electrical and Computer Engineering
(1-4) STAFF

Prerequisite: ECE 501 or consent of instructor. May be taken concurrently with ECE 501. No unit credit allowed toward advanced degree. Variable hours.

Procedures and techniques for teaching electrical engineering or computer engineering gained through actual teaching of lecture courses, leading discussion sections, and/or teaching engineering laboratories. Meetings will be held as needed to discuss problems, methods, and procedures. (F,W,S)

594AA-ZZ. Special Topics in Electrical and Computer Engineering
(1-5) STAFF

Prerequisites: consent of instructor and graduate status. May be repeated for credit if there is no duplication of course content. Seminar, 1-5 hours.

Instruction in these courses may be carried out by lecture, or by laboratory, or by a combination of these. These courses provide a study of topics of current interest in various areas of electrical and computer engineering. Special topics are coded as follows: A. Circuits. B. Systems Theory. C. Communication Systems. D. Control Systems. E. Signal Processing. F. Solid State. G. Fields and Waves. H. Quantum Electronics. I. Microwave Electronics. J. Switching Theory. K. Digital Systems Design. L. Computer Architecture. M. Computer Graphics. N. Pattern Recognition. O. Microprocessors and Microprocessor-based Systems. P. Simulation. Q. Imaging Systems and Image Processing. R. General. S. Speech. T. Robot Control. U. Optoelectronics. V. Scientific Computation. W. Computer Network. (F,W,S)

594X. Communication and Communication in Distributed Systems
(4) VARVARIGOS

Prerequisite: consent of instructor.

Distributed algorithims in fast parallel computation and communication networks. Communication tasks in regular multiprocessor architectures. Parallel algorithms. Control algorithms for data networks and asynchronous computing systems.

595AA-ZZ. Group Studies in Electrical and Computer Engineering
(1) STAFF

Prerequisite: consent of instructor. No unit credit allowed toward degree. May be repeated for enrollment credit if there is no duplication of course content. Seminar, 1 hour.

Instruction in research group meetings carried out by lecture, by laboratory, or by a combination of the two. Courses provide a critical review of research in various areas of electrical and computer engineering. (F,W,S)

596. Directed Research
(2-12) STAFF

Research, either experimental or theoretical, may be undertaken by properly qualified graduate students under the direction of a faculty member. (F,W,S,SS)

597. Individual Studies for M.S. Comprehensive Examinations and Ph.D. Examinations
(1-12) STAFF

No unit credit allowed toward advanced degree. Enrollment limited to 24 units per exam.

Individual studies for M.S. comprehensive examinations and Ph.D. examinations. Maximum of 12 units per quarter. S/U grading. Instructor is normally student's major professor or chair of doctoral committee. (F,W,S,SS)

598. Master's Thesis Research and Preparation
(1-12) STAFF

Prerequisite: consent of graduate adviser.

For research underlying the thesis and writing of the thesis. (F,W,S,SS)

599. Ph.D. Dissertation Research and Preparation
(1-12) STAFF

Prerequisite: consent of chair of student's doctoral committee.

Research and preparation of dissertation. (F,W,S,SS)

Engineering Sciences Courses

Engineering Sciences, Office of the Associate Dean for Academic Affairs,
Engineering I, Room 1028;
Telephone (805) 893-3207 or 893-2809

LOWER DIVISION

Note: Students will not receive credit toward graduation even as a free elective if they repeat what is essentially the same subject in different courses. An example of such a redundancy is Engineering 2A-B-C and Computer Science 5FO, English 2 and English 3.

1A. Introduction to Engineering
(1) WOOD

Prerequisites: required of engineering freshmen who do not qualify for Engineering 2A. Students who have not satisfied the Subject A requirement must be enrolled in English 1 or an ESL (Linguistics) course. Open to College of Engineering students only, except computer science and pre-computer science majors.

An introduction to computing and engineering which is linked with Writing Program courses in written and oral communication. Computer topics include word processing, spreadsheets, and programming.

1B-C. Introduction to Engineering
(1-1) WOOD

Prerequisites: Engineering 1A; must be taken in sequence. Must be taken with the appropriate English composition course, if any are required. Open to College of Engineering students only, except computer science and pre-computer science majors.

An introduction to computing and engineering which is linked with Writing Program courses in written and oral communication. Computer topics include word processing, spreadsheets, and programming.

2A-B-C Introduction to Engineering and Communication
(3-4-4) WOOD

Prerequisites: English 1 or equivalent. Required of engineering freshmen who have satisfied the Subject A requirement. Not open to students who have completed English 2 or 2A. Open to College of Engineering students only.

An interdisciplinary course which combines computing and engineering with written and oral communication. Computer topics include word processing, spreadsheets, and programming. Critical thinking, written and oral communciations typically required in engineering. Emphasis on critical analysis, exposition, argument, and research.

UPPER DIVISION

100. Engineering Economic Analysis
(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor.

Engineering feasibility factors and engineering economic analysis. Analysis of alternatives and estimates of demands and costs in engineering. (F,W)

101. Ethics in Engineering
(3) STAFF

Prerequisite: upper-division standing in engineering or consent of instructor.

The nature of moral value, normative judgment, and moral reasoning. Theories of moral value. The engineer's role in society. Ethics in professional practice. Safety, risk, responsibility. Morality and career choice. Code of ethics. Case studies will facilitate the comprehension of the concepts introduced. (S)

103. Technical Writing
(3) STAFF

Prerequisite: upper-division standing in College of Engineering or consent of instructor.

Emphasis on planning and writing the kinds of engineering documents that engineers will encounter in the world of work; documents include reports, proposals, professional papers, specifications, and oral technical presentations. (F,W,S)

Materials

Department of Materials;
Engineering III;
Telephone (805) 893-4362
Chair: David R. Clarke

Faculty

Anthony K. Cheetham, Ph.D., Oxford University, Professor, Director of Materials Research Laboratory *(inorganic chemistry, catalyst, crystals, synthesis, new materials)*

David R. Clarke, Ph.D., University of Cambridge, Professor *(electronic and superconducting materials, structural ceramics, electron microscopy)*

§ **Larry A. Coldren**, Ph.D., Stanford University, Professor, Optoelectronics Technology Center Director *(semiconductor integrated optics, optoelectronics, molecular beam epitaxy)*

Steven P. DenBaars, Ph.D., University of Southern California, Assistant Professor *(metalorganic chemical vapor deposition, optoelectronic materials, compound semiconductors)*

§§ **Anthony G. Evans**, Ph.D., Imperial College (London), Professor, Co-director of High Performance Composites Center *(mechanical behavior, ceramics, composites, powder processing)*

§ **Arthur C. Gossard**, Ph.D., UC Berkeley, Professor *(epitaxial growth, artificially synthesized semiconductor microstructures, devices)*

** **Alan J. Heeger**, Ph.D., U.C. Berkeley, Professor *(condensed-matter physics, conducting polymers; non-linear optical properties)*

* **Jacob N. Israelachvili**, Ph.D., University of Cambridge, Professor *(adhesion, surface forces, colloids)*

§ **Herbert Kroemer**, Dr. Rer. Nat., University of Göttingen, Professor *(device physics, molecular beam epitaxy, heterojunctions, compound semiconductors)*

* **Frederick F. Lange**, Ph.D., Pennsylvania State University, Professor *(processing, ceramics, microstructure, mechanical properties)*

§§ **Carlos G. Levi**, Ph.D., University of Illinois at Urbana-Champaign, Professor *(solidification, metastable structures, composite processing, process modeling)*

* **Glenn E. Lucas**, Ph.D., Massachusetts Institute of Technology, Professor *(radiation damage, mechanical and structural analysis)*

§ **James L. Merz**, Ph.D., Harvard University, Professor, Director of Center for Quantized Electronic Structures *(optical properties of semiconductors, defects in solids, ion implantation, laser annealing, quantum structures)*

§§ **Frederick F. Milstein**, Ph.D., UC Los Angeles, Professor *(crystal mechanics, bonding, defects, mechanical properties)*

* **G. Robert Odette**, Ph.D., Massachusetts Institute of Technology, Professor *(radiation damage and environmental effects, high-performance composites)*

* **Dale Pearson**, Ph.D., Northwestern University, Professor *(rheological properties, synthesis, and mechanical and transport properties of polymers)*

§ **Pierre M. Petroff**, Ph.D., UC Berkeley, Professor, Compound Semiconductor Research Center Director *(semiconductor interfaces, defects, quantum structures)*

** **Philip A. Pincus**, Ph.D., UC Berkeley, Professor *(theory of polymers, colloids, surfactants)*

Cyrus R. Safinya, Ph.D., Massachusetts Institute of Technology, Professor *(x-ray scattering, condensed-matter experiments, complex fluids, biomaterials, liquid crystals)*

Hans-Werner Schmidt, Dr. Rer. Nat., Johannes Gutenberg University Mainz, Assistant Professor *(synthetic polymer chemistry, liquid crystals, functionalized polymers)*

***Paul Smith**, Ph.D., Rijks Universiteit Groningen, Professor *(polymer processing, phase behavior, ordered polymers, high modulus/high-strength fibers, conducting polymers)*

James S. Speck, Sc.D., Massachusetts Institute of Technology, Assistant Professor *(transmission electron microscopy, x-ray diffraction, carbon materials, thin films, smart materials)*

Francis W. Zok, Ph.D., McMaster University, Assistant Professor *(mechanical behavior of composites, fatigue, deformation processing)*

§ Joint appointment with the Department of Electrical and Computer Engineering.

§§ Joint appointment with the Department of Mechanical and Environmental Engineering.

* Joint appointment with the Department of Chemical and Nuclear Engineering.

** Joint appointment with the Department of Physics.

Affiliated Faculty

Glenn H. Fredrickson, Ph.D., (Chemical and Nuclear Engineering)

Joseph A. N. Zasadzinski, Ph.D. (Chemical and Nuclear Engineering)

The Department of Materials was con-ceptualized and built under two basic guidelines: to educate graduate students in advanced materials and to introduce them to novel ways of doing research in a collaborative, multidisciplinary environment. Advancing materials technology today—either by creating new materials or improving the properties of existing ones—requires a synthesis of expertise from the classic materials fields of metallurgy, ceramics, and polymer science, and such fundamental disciplines as applied mechanics, chemistry, and solid-state physics. Since no individual has the necessary breadth and depth of knowledge in all these areas, solving the advanced materials problems demands the integrated efforts of scientists and engineers with different backgrounds and skills in a research team. The department has effectively transferred the research team concept, which is the operating mode of the high technology industry, into an academic environment.

The department has major research groups working on a wide range of advanced inorganic and organic materials, including high temperature composites, advanced structural alloys, intermetallics, ceramics and polymers, compound semiconductors, high TC superconductors, electronic polymers and organic solids, optical, optoelectronic, piezoelectric, ferroelectric and magnetostrictive materials, liquid crystals, surface-active materials, catalysts, colloids, surfactants and gels. The groups are typically multidisciplinary involving faculty, post-doctoral researchers and graduate students working on the synthesis and processing, structural characterization, property evaluation, microstructure-property relationships and mathematical models relating micromechanisms to macroscopic behavior. The department has close collaborations, and a number of faculty have joint appointments in the Departments of Mechanical and Environmental Engineering (mechanics and design), Chemical and Nuclear Engineering (fluids and radiation effects), Electrical and Computer Engineering (electronic devices), Physics, and Chemistry.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Admission

Undergraduate preparation for the Materials M.S./Ph.D. includes a degree in engineering, physical sciences, or mathematics. However, the breadth of the materials field requires that flexibility be built into the undergraduate educational requirements. Upper-division courses in several of the following topics would be expected:

(1) mathematics—about 24 units in advanced calculus, ordinary differential equations, special functions and complex variable theory;

(2) engineering thermodynamics—about 9 units;

(3) solid state physics—about 9 units;

(4) physical chemistry—about 12 units;

(5) materials science—about 12 units in mechanical properties, electronic properties, structure, processing;

(6) electronics—about 12 units;

(7) mechanics—about 9 units in advanced strength of materials, elasticity, and structures.

An incoming student is not expected to meet all upper-division requirements, but students must satisfy the requirements in mathematics and at least two other areas representing about one full year of undergraduate study. The areas that should be covered will depend on the student's chosen graduate field of study within materials. Some deficiencies can be satisfied during the first year of graduate study by taking upper-division undergraduate courses in the new area of specialization.

Students possessing a B.S. degree (having a 3.2 minimum grade-point average) are eligible to be admitted to M.S./Ph.D. status and those with an M.S. degree (having a 3.5 minimum grade-point average) are eligible to be admitted to Ph.D. status. The department gives priority for admission to students who are interested in the Ph.D. degree. Admission is available for all quarters, with no departmental deadlines beyond those of the Graduate Division. Satisfactory performance in the verbal, quantitative, and analytical sections of the Graduate Record Examination is required.

Master of Science, Materials

A student having a B.S. degree would enter the M.S. program in preparation for candidacy to the Ph.D. The M.S. degree program introduces students to the knowledge needed to proceed to candidacy as well as to the nature of research and the discipline of independent work. Students may earn an M.S. degree by successfully completing 42 units of which 24 units would be approved courses, 6 units of seminars, and 12 units of thesis research. Normative time for the M.S. degree is two years.

Doctor of Philosophy, Materials

The Department of Materials offers a program leading to a Ph.D. degree with specializations in the following major areas: electronic, macromolecular, and structural materials. The curriculum in each area has the flexibility needed to provide multidisciplinary educational opportunities in the field of advanced materials. Incoming students are expected to design a tentative study program suitable to their interests and research field with the assistance of the adviser and submit it for approval to the Graduate Affairs Committee within the first two quarters of residence. Each study program consists of a specified course sequence with emphasis on lectures, laboratory experience, and seminars.

Degree Requirements

Students admitted with a Bachelor's degree are required to complete a minimum of 72 units of academic work structured in the following manner: 42 units of 200-level courses, 15 units of seminars and/or independent studies, and 15 units of thesis research. The 42 units of 200-level coursework should be structured in the following manner: 24 units of coursework towards a major emphasis, five specified introductory materials courses, and two courses outside the student's major emphasis. A list of courses fulfilling these requirements is available in the Materials Department Office.

Students are required to act as teaching assistants for at least one quarter while in residence at UCSB either within Materials courses offered to undergraduate students or within those departments providing courses consistent with the student's undergraduate background.

Students entering with a M.S. degree may petition to waive certain unit requirements for the Ph.D. (up to 15 units of 200-level courses) deemed to have been fulfilled by Master's studies elsewhere. There is no foreign language requirement in either the M.S. or Ph.D. program. Doctoral students, however, are encouraged to become proficient in one or more foreign languages relevant to the technical literature in their field. Students have the opportunity to take upper-division undergraduate courses, for which they have the necessary prerequisite qualifications, as preparation for the graduate program. Up to 6 units of such courses can be taken for credit toward the 200-level course requirements.

A preliminary examination is required for admission to the Ph.D. program. It is to be taken in the second quarter of residence for those entering with a M.S. degree and in the fourth quarter for those entering with a B.S. degree. The subject matter to be examined includes a body of undergraduate knowledge in materials and a special topic.

Students must pass an oral qualifying examination covering a dissertation proposal based on original research. The examination committee consists of five faculty with at least three from within the Department of Materials and one with a majority appointment outside the program. Upon passing this examination, the student advances to candidacy for the Ph.D. The examination committee typically becomes the dissertation committee.

The student conducts original research under the supervision of the research advisers and prepares a dissertation. Students submit the final draft to the dissertation committee and to the department chair. The committee ascertains the suitability of the draft. The candidate is then responsible for amendments to the dissertation based on the committee recommendations. When the dissertation is approved by the committee, the candidate presents a formal defense of the dissertation in a public seminar. Students are expected to complete a Ph.D. within five years after entry at the B.S. level and three years after M.S. level entry.

Materials Courses

GRADUATE COURSES

201. Thermodynamics of Materials

(3) EVANS

Prerequisite: consent of instructor. Same course as ME 262. Lecture, 3 hours.

Advanced thermodynamics with emphasis on phase transformations, properties of solutions, and multicomponent systems.

202. Kinetic Processes in Materials

(3) ODETTE

Prerequisite: consent of instructor. Same course as Nuclear Engineering 251. Lecture, 3 hours.

Kinetics of transformations of materials with emphasis on first order phase transformation.

204A. Materials Structures and Bonding

(3) MILSTEIN

Prerequisite: consent of instructor. Same course as ME 260A. Lecture, 3 hours.

Crystal structures (Miller indices, Bravais lattices, symmetry operations, bases, crystal diffraction, reciprocal lattices, Brillouin zones); elements of statistical thermodynamics and quantum mechanics; ionic, covalent, and metallic bonding.

204B. Bonding and Crystal Elasticity

(3) STAFF

Prerequisite: consent of instructor. Same course as ME 260B.

Bonding and elasticity in metals, ceramics, and salts. Atomistic basis for structure, elastic behavior, and stability of crystals.

206A. Fundamentals of Electronic Solids I

(3) STAFF

Prerequisite: ECE 162 or consent of instructor. Same course as ECE 215A.

Introduction into the physics of semiconductors for beginning engineering graduate students. Crystal structure. Reciprocal lattice and crystal diffraction. Electrons in periodic structures. Energy and bands. Semiconductor electrons and probes, Fermi statistics.

206B. Fundamentals of Electronic Solids II

(3) STAFF

Prerequisite: ECE 162 or consent of instructor. Same course as ECE 215B.

Phonons, electron scattering, electronic transport, selected optical properties, heterostructures, effective mass, quantum wells, two-dimensional electron gas, quantum wires, deep levels, and crystal binding.

207. Continuum Mechanics

(3) MCMEEKING

Prerequisite: ME 152A-B or equivalent. Consent of instructor. Same course as ME 219. Lecture, 3 hours.

Matrices and tensors, stress deformation and flow, compatibility conditions, constitutive equations, field equations and boundary conditions in fluids and solids, applications in solid and fluid mechanics.

209A. Crystallography and Diffraction

(3) SPECK

Diffraction theory: Fourier transformation, Schrodinger equation, Maxwell's equations, kinematical theory, Fresnel diffraction, Fraunhofer diffraction, scattering of X-rays, electrons and neutrons by isolated atoms and assemblies of atoms, pair correlation and radial distribution functions. Basic symmetry operations, point groups, space groups.

209B. Crystallography and Diffraction II

(3) CHEETHAM

Prerequisites: consent of instructor; Materials 209.

Topics in structure determination: structure factors, integrated intensities, data collection, the phase problem, Patterson synthesis, direct methods, structure refinement, Debye-Waller factors, thermal diffuse scattering and extinction. Rietveld analysis of powder diffraction data. Synchrotron X-rays, neutron diffraction, electron diffraction, non-crystalline materials.

209C. Electron Microscopy

(3) CLARKE

Prerequisite: consent of instructor.

Electron microscopy to study defect structures, elastic and inelastic scattering, kinematics theory of image contrast, bright and dark field imaging, two-beam conditions, contrast from imperfections, dynamical theory of diffraction and image contrast. Howie Whellan equations, dispersion surface.

211A. Engineering Quantum Mechanics I

(4) KROEMER

Prerequisites: ECE 105 and 162A-B, or equivalents; or consent of instructor. Same course as ECE 211A. Lecture, 4 hours.

Wave-particle duality; bound states; uncertainty relations; expectation values and operators; variational principle; eigenfunction expansions; perturbation theory I. Treatment matches needs and background of ECE and materials students emphasizing solid state or quantum electronics.

211B. Engineering Quantum Mechanics II

(4) KROEMER

Prerequisites: Materials 211A, 206, or equivalent; or consent of instructor. Same course as ECE 211B. Lecture, 4 hours.

More advanced continuation of 211A: symmetry and degeneracy; electrons in crystals, angular momentum; perturbation theory II; transition probabilities; quantized fields and radiative transitions; magnetic fields; electron spin; indistinguishable particles.

212. X-Ray Diffraction and Related Techniques

(3) STAFF

Prerequisites: consent of instructor.

Theory of x-ray diffraction, scattering concepts, powder diffraction, texture analysis, Laue photography, single crystal techniques, advanced diffractometer techniques, resolution function, scattering by imperfect crystals, dynamical theory, small angle scattering.

213. Crystal Growth and Thin Film Epitaxy

(3) PETROFF

Prerequisite: consent of instructor. Same course as ECE 213. Lecture, 3 hours.

Nucleation and epitaxy: homogeneous and heterogeneous epitaxy. Growth mechanism, defect creation. Kinetics and thermodynamics of crystal growth for: liquid phase epitaxy, vapor phase epitaxy, and molecular beam epitaxy of metals and semiconductors.

215A. Semiconductor Device Processing

(4) STAFF

Prerequisite: ECE 124B-C, or consent of instructor. Same course as ECE 220A. Lecture, 3 hours; discussion, 1 hour.

Intensive theoretical and laboratory instruction in solid-state device and integrated circuit fabrication. Topics include 1) semiconductor material properties and characterization; 2) phase diagrams; 3) diffusion; 4) thermal oxidation; 5) vacuum processes; 6) thin-film deposition; 7) scanning electron microscopy. Both gallium arsenide and silicon technologies are presented.

215B-C. Semiconductor Device Processing

(4-4) GOSSARD, HU

Prerequisite: Materials 215A or consent of instructor. Same course as ECE 220B-C. Lecture, 3 hours, discussion, 1 hour.

Continued theoretical and laboratory instruction in the fundamentals, the design, the fabrication, and the characterization of junction and field-effect devices. Topics will include bipolar characterization, design, fabrication, and testing. The laboratory effort initiated in Materials 215A will be continued in these two quarters.

216A. Defects in Materials

(3) PETROFF

Prerequisite: consent of instructor. Same course as ECE 216A and Nuclear Engineering 221. Lecture, 3 hours.

Defects in materials, crystal structure and atomic bonding in crystals. Point defects and diffusion, dislocation theory in cubic and hexagonal metals, dislocations, point defect interactions. Planar defects, grain boundaries in metals. The class will cover the structure of defects in metals, semiconductors and ceramics.

216B. Defects in Semiconductors
(3) PETROFF

Prerequisites: ECE 162A-B, or consent of instructor. Same course as ECE 216B. Lecture, 3 hours

Structural and electronic properties of elementary defects in semiconductors. Point defects and impurity complexes. Deep levels. Dislocations and grain boundary electronic properties. Measurement techniques for radiative and nonradiative defect centers.

217. Molecular Beam Epitaxy and Band Gap Engineering
(3) Gossard

Prerequisites: ECE 162A-B, and 213, or consent of instructor. Same course as ECE 217. Lecture, 3 hours.

Fundamentals and recent research developments in the growth and properties of thin crystalline films of electronic and optical materials by the process of molecular beam epitaxy. Artificially structured materials with quantized electron confinement and artificially engineered electronic band structure properties.

218. Introduction to Inorganic Materials
(3) CHEETHAM

Prerequisite: consent of instructor.

Structures of inorganic materials: close-packing, linking of simple polyhedra. Factors that control structure: ionic radii, covalency, ligand field effects, metal-metal bonding, electron/atom ratios. Structure-property relationships in e.g. spinels, garnets, perovskites, rutiles, fluorites, zeolites, B-aluminas, graphites, common inorganic glasses.

219. Phase Transformations
(3) CLARKE

Prerequisite: consent of instructor.

Introduction to the unifying concepts underlying phase transformations in metals, ceramics, polymers, and electronic materials. Includes the thermodynamics, kinetics, crystallography and microstructural characteristics of displacive and diffusional transformations. Role of elastics, compositional , configurational, electrical, magnetic and gradient energy contributions.

220. Mechanical Behavior of Materials
(3) ZOK, EVANS

Concepts of stress and strain. Deformation of metals, polymers, and ceramics. Elasticity, viscoelasticity, plastic flow, and creep. Linear elastic fracture mechanics. Mechanisms of ductile and brittle fracture.

221A. Advanced Topics in Electron Microscopy
(3) STAFF

Prerequisite: consent of instructor.

High resolution microscopy, wave optics, conditions for HRTEM, image formation, computation of HRTEM images, convergent beam electron diffraction, weak-beam microscopy, electron energy loss spectroscopy.

221B. Advanced Topics in Microscopy
(3) STAFF

Prerequisite: consent of instructor.

Surface structure of solids, physics of fine probe forming instruments, x-ray fluorescence spectroscopy (EDS), quantification of EDS, Auger electron spectroscopy, electron channelling and backscattering patterns, electron holography surface microscopy, scanning tunnelling microscopy, atomic force microscopy.

222A. Colloids and Interfaces I
(3) ISRAELACHVILI

Prerequisite: consent of instructor. Same course as Chemical Engineering 222A. Lecture, 3 hours.

Introduction to the various intermolecular interactions in solutions and colloidal systems: Van der Waals, electrostatic, hydrophobic, solvation, H-bonding. Introduction to colloidal systems: particles, micelles, polymers, etc. Surfaces: wetting, contact angles, surface tension, etc.

222B. Colloids and Interfaces II
(3) ZASADZINSKI

Prerequisite: consent of instructor. Materials 222A or Chemical Engineering 222A recommended. Same course as Chemical Engineering 222B. Lecture, 3 hours.

Continuation of 222A. Interparticle interactions, coagulation, flocculation, DLVO theory, steric interactions, polymer-coated surfaces, polymers in solution, viscosity in thin liquid films. Surfactant self-assembly: micelles, micro-emulsions, lamellar phases, etc. Surfactants on surfaces: Langmuir-Blodgett films, adsorption, adhesion.

222C. Colloids and Interfaces III
(3)ISRAELACHVILI

Prerequisites: Materials 222B or Chemical Engineering 222B. Consent of instructor. Same course as Chemical Engineering 222C. Lecture, 3 hours.

The course builds on 222A and 222B focusing on the self-assembly of surfactants and polymers into aggregated structures and the interactions between these structures. The shear and rheological properties in films of molecular dimensions will also be covered.

223. Macromolecular Solids
(3) SMITH

Prerequisite: consent of instructor. Same course as Chemical Engineering 223. Lecture, 3 hours.

Crystalline polymers, nucleation, crystallization, and melting. Morphology and the relations between structure and properties. Amorphous polymers. The glassy state and the transition.

224A-B. Concepts and Phenomena of Condensed Matter Physics
(4-4) STAFF

Prerequisites: Physics 219, 215C. Consent of instructor. Same course as Physics 223A-B. Lecture, 3 hours.

Lattice and electron dynamics, transport phenomena, and other major topics such as: optics, superconductivity, cooperative magnetism, electron-phonon interactions, defects, disorder.

225. Introduction to Macromolecular Materials
(3) SCHMIDT

An introductory course that covers synthesis, characterization, structure, and mechanical properties of polymers. The course is taught from a materials viewpoint and includes discussions of polymerization reactions, molecular weight measurement, polymer processing, and how polymers are selected for a particular application.

226. Electrical and Optical Ceramics
(3) CLARKE

Prerequisite: consent of instructor.

Physical basis for ferroelasticity, ferroelectricity and piezoelectricity in ceramics. Point defects and doping effects on conductivity. Role of grain boundaries and variations in defect chemistry on electrical properties. Optical, non-linear and electro-optical effects and figures of merit.

227. Vapor Phase Epitaxy of Electronic Materials
(3) DENBAARS

Electronic and optical properties of thin films grown by vapor phase transport techniques. Growth mechanisms, kinetics and thermodynamics of vapor phase epitaxy. Special emphasis on the process of metalorganic vapor phase epitaxy for optoelectronic materials and devices.

230. Elasticity
(3) MCMEEKING

Prerequisites: ME 219. Consent of instructor. Same course as ME 230. Lecture, 3 hours.

Review of the field equations of elasticity. Energy principles and uniqueness theorems. Elementary problems in one and two dimensions. Stress functions, complex variable methods, and three-dimensional potential functions. Fundamental solutions in two and three dimensions. Approximate methods.

231. Fracture and Fatigue
(3) EVANS

Prerequisites: consent of instructor.

Mechanisms and mechanics of fracture and fatigue in metals, polymers, ceramics, and composites. Effects of microstructure. Models of materials behavior. Reliability and lifetime analysis. Materials improvements.

232. Plasticity
(3) MCMEEKING

Prerequisites: Materials 230. Consent of instructor. Same course as ME 232. Lecture, 3 hours.

Plastic, creep, and relaxation behavior of solids. Mechanics of inelastically strained bodies; plastic stress-strain laws; flow potentials. Torsion and bending of prismatic bars, expansion of thick shells, plane plastic flow, slip line theory. Variational formulations, approximate methods.

233. Polymer Processing
(3) SMITH

Prerequisites: Materials 223. Consent of instructor. Same course as Chemical Engineering 247. Lecture, 3 hours.

The technology of processing polymers into useful objects. Fiber spinning, film blowing, polymer foams, injection molding, extrusion and mixing, film casting, thermo forming. Drawing, uniaxial, and biaxial. High-performance polymer materials.

234. Fracture Mechanics
(3) Staff

Prerequisites: Materials 230. Consent of instructor. Same course as ME 275A. Lecture, 3 hours.

Analytic solutions of a stationary crack under static loading. Elastic and elastoplastic analysis. The J integral. Energy balance and crack growth. Criteria for crack initiation and growth. Dynamic crack propagation. Fatigue. The micromechanics of fracture.

235. Deformation of Solids
(3) ZOK

Prerequisites: consent of instructor.

Theoretical strength of crystals. Geometry, properties, and interaction of dislocations. Plastic flow in single crystals and polycrystals. Strengthening mechanisms (work hardening, microstructure refinement, solid solutions, precipitation and dispersion). Deformation twinning. High temperature behavior (creep, creep maps, viscoelasticity, recovery, recrystallization).

236. Advanced Fracture Mechanics
(3) STAFF

Prerequisites: Materials 234. Consent of instructor. Same course as ME 275B. Lecture, 3 hours.

Theoretical and experimental basis for theories of crack propagation in nonlinear or inhomogeneous materials. Topics selected from: elastoplastic fracture mechanics in large scale yielding; stable elastoplastic crack growth; creep cracking; cracks near bimaterial interfaces; stress corrosion cracking; and others.

238A-B. Rheology of Polymeric Liquids
(3) PEARSON

Same course as Chemical Engineering 238A-B. Lecture, 3 hours.

A study of the viscoelastic properties of polymer solutions, melts, networks, and colloidal suspensions. Emphasis is placed on experimental techniques to determine rheological behavior, on models that relate mechanical properties to molecular structure, and on analysis of polymer processing operations.

240. Finite Element Structural Analysis
(3) STAFF

Prerequisites: ME 167 or equivalent; Materials 207 or equivalent. Same course as ME 271. Lecture, 3 hours.

Definitions and basic element operations. Displacement approach in linear elasticity. Element formulation: direct methods and variational methods. Global analysis procedures: assemblage and solution. Plane stress and plane strain. Solids of revolution and general solids. Isoparametric representation and numerical integration. Computer implementation.

250. Solidification Processing
(3) LEVI

Prerequisite: consent of instructor. Same course as ME 268. Lecture, 3 hours.

Transport phenomena, thermodynamics, and kinetics of solidification. Principles of solute redistribution: microsegregation and macrosegregation. Evolution of solidification microstructure: plane front, cellular, dendritic, and cooperative growth. Metastable structures and interfacial nonequilibrium.

251A. Ceramic Processing
(3) LANGE

Prerequisite: consent of instructor. Same course as Nuclear Engineering 219A. Lecture, 3 hours.

Processing of ceramics: glass-ceramics, gelation, and powder methods. Powder methods will be emphasized from powder manufacture through consolidation of shape, with introduction to densification. Colloidal routes to powder preparation and consolidation.

251B. Densification and Microstructural Control
(3) LANGE

Prerequisite: consent of instructor. Same course as Nuclear Engineering 219B. Lecture, 3 hours.

Mass transport and kinetic sintering theories. Thermodynamics of pore phase disappearance. Grain growth during densification. Effects of a liquid phase (liquid phase sintering). Effects of inert phases on densification. Effects of applied pressure. Control of grain growth after densification.

252. Crystal Chemistry
(3) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours.

Principles of crystal chemistry applied to inorganic structures and their properties. Bonding theories used to explain elemental combinations, specific periodic classifications. Important crystal structural types and their broad variation with chemistry emphasized. The characteristics of these structures related to physical properties.

253. Liquid Crystal Materials
(3) SCHMIDT

Prerequisite: consent of instructor. Lecture, 3 hours; laboratory, 2 hours.

Low molar mass liquid crystals (LC) and liquid crystalline polymers (LCP). Thermotropic and lyotropic liquid crystals, classification of LC phases. Materials for electro-optical displays, display technology. Structure-property relationship and applications of main chain LCPs and side chain LCPs.

261. Composite Materials
(3) EVANS

Prerequisite: consent of instructor. Same course as ME 265. Lecture, 3 hours.

Stress and strain relations in composites. Residual stresses. The fracture resistance of organic and inorganic matrix composites. Statistical aspects of fiber failure. Composite laminates and delamination cracks. Cumulative damage concepts. Interface properties. Design criteria.

262. Structural Ceramics
(3) LANGE

Prerequisite: consent of instructor. Same course as Nuclear Engineering 262. Lecture, 3 hours.

Ceramic processing methods. Flaws in ceramics. Fracture resistance and microstructure. Probabilistic design concepts. Nondestructive evaluation approaches. Reinforced ceramics. High temperature properties. Impact damage.

263. Alloy Design
(3) LUCAS

Prerequisite: consent of instructor. Same course as Nuclear Engineering 263. Lecture, 3 hours.

Matching material performance with the needs of particular engineering applications through control of alloy chemistry, processing, and component fabrication history. Processing — microstructure — property relations. Case histories: energy, aerospace, transportation.

271. Corrosion
(3) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours.

Electrochemical corrosion: galvanic series, polarization, Pourbaix diagrams, anodic and cathodic protection. Chemical corrosion: oxidation, sulfidation, liquid metal dissolution; stress corrosion cracking, intergranular attack.

272. Radiation Effects in Materials
(4) ODETTE

Prerequisites: Nuclear Engineering 180 or 116. Consent of instructor. Same course as Nuclear Engineering 217. Lecture, 3 hours.

Review of field of radiation damage to structural materials used in fission and fusion power systems. Fundamental theoretical basis of radiation damage models, experimental data base, and methods of predicting damage to engineering structures are required.

281A. Static and Dynamic Properties of Macromolecules I
(3) PINCUS

Prerequisite: consent of instructor. Same course as Chemical Engineering 281A. Lecture, 3 hours.

Polymerization; dilute and semidilute linear polymer solutions; bulk polymers and blends; copolymers; characterization methods.

281B. Static and Dynamic Properties of Macromolecules II
(3) PINCUS

Prerequisite: consent of instructor. Materials 281A or Chemical Engineering 281A. Same course as Chemical Engineering 281B. Lecture, 3 hours.

Phase equilibrium and transitions; functionalized polymers: liquid crystals, polymer amphiphiles, associating polymers, polypeptides, etc.; solution dynamics; introduction to polymer rheology.

281C. Static and Dynamic Properties of Macromolecules III
(3) PINCUS

Prerequisite: consent of instructor. Materials 281A or Chemical Engineering 281A. Same course as Chemical Engineering 281C. Lecture, 3 hours.

Phase equilibrium and transitions; functionalized polymers: liquid crystals, polymer amphiphiles, associating polymers, polypeptides, etc.; solution dynamics; introduction to polymer rheology.

282. Synthesis and Properties of Speciality Polymers
(3) SCHMIDT

Prerequisite: consent of instructor. Lecture, 3 hours.

Synthesis, structure-property relationship and applications of speciality polymers. Topics: fluorine containing polymers, silicon containing polymers, block copolymers, thermoplastic elastomers, high temperature resistant polymers, liquid crystalline polymers, photoreactive polymers (microlithography), polymers for optical information storage and electronic applications conducting polymers.

283A. Experiments in Polymer Science
(4) SCHMIDT, SMITH

Prerequisite: consent of instructor. Laboratory, 12 hours.

Basic lab experiments in synthesis, characterization, and processing of polymers. Experiments include: free radical polymerization, ionic polymerization, polycondensation, copolymerization, different characterization methods, fiber spinning, film preparation, and mechanical testing.

283B. Advanced Experiments in Polymer Science
(4) SCHMIDT, SMITH

Prerequisites: Materials 283A and consent of instructor. Laboratory, 12 hours.

Integrated project on synthesis, characterization, and processing of polymers. Course includes literature search, design and set up of experiments, characterization, and testing of the properties of the final fabricated polymer products.

284. Synthetic Chemistry of Macromolecules
(3) SCHMIDT

Prerequisite: consent of instructor. Same course as Chemistry 285. Lecture, 3 hours.

Molecular architecture and classification of macromolecules. Different methods of the preparation of polymers: free radical polymerization, ionic polymerization, condensation polymerization and coordination polymerization. Bulk, solution, and emulsion polymerization. Principles of copolymerization, block copolymerization, grafting, network formation, chemical reactions on polymers.

285. Structure and Properties of Interfaces
(3) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours.

Homophase and heterophase interfaces. Dichromatic pattern of interfaces (group theoretical description). Geometrical models of interfaces. Relaxations at interfaces and atomic structure, energies of interfaces. Bonding across interfaces. Thermodynamics and wetting of interfaces. Properties of interfaces such as diffusion, segregation and fracture resistance.

287. Special Topics in Macromolecular Materials
(3) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours.

This course will be offered on an irregular basis and will concern in-depth discussions of advanced topics in macromolecular materials.

288. Special Topics in Electronic Materials.
(3) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours.

This course will be offered on an irregular basis and will concern in-depth discussions of advanced topics in electronic materials.

289. Special Topics in Structural Materials
(3) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours.

This course will be offered on an irregular basis and will concern in-depth discussions of advanced topics in structural materials.

290. Research Group Studies
(1-3) STAFF

Prerequisite: consent of instructor. Seminar, 1-3 hours.

In this course students or instructors present recently published papers and/or results relevant to their own research.

299. Seminar in Materials Science and Engineering
(3) STAFF

Prerequisite: consent of instructor. Seminar, 2 hours.

A seminar course recommended at least once per year for all materials students. Internal and external speakers will present mini-courses on advanced topics which should be of general interest to materials scientists. Students will prepare status reports.

501. Teaching Assistant Practicum
(1-4) STAFF

Prerequisite: consent of graduate adviser. This course is required for new teaching assistants. No unit credit allowed toward advanced degree. Preparation, 1 hour; other, 2 hours.

Practical experience in the various activities associated with teaching including: lecturing, supervision of laboratories and discussion sections, preparation, and grading of homework and exams.

596. Directed Reading and Research
(2-4) STAFF

Tutorial, 1-3 hours.

Individual tutorial. Instructor usually student's major professor. A written proposal for each tutorial must be approved by the department chair.

598. Master's Thesis Research and Preparation
(1-12) STAFF

Prerequisite: consent of graduate adviser. S/U grading only. Preparation, variable hours; tutorial, 1-3 hours.

For research underlying the thesis and writing of the thesis.

599. Ph.D. Dissertation Research and Preparation
(1-12) STAFF

Prerequisite: consent of chair of student's doctoral committee. S/U grading only. Preparation, variable hours; tutorial, 1-3 hours.

Research and preparation of the dissertation.

Mechanical and Environmental Engineering

Department of Mechanical and Environmental Engineering, Engineering II, Room 2355; Telephone (805) 893-2430
Chair: Robert M. McMeeking

Faculty

Jerar Andon, M.S., Stanford University, Lecturer

Eduardo Bayo, Ph.D., UC Berkeley, Associate Professor *(computational mechanics, structural analysis, structural dynamics)*

Glenn E. Beltz, Ph.D., Harvard, Assistant Professor *(nanostructures and brittle-ductile transitions, solid mechanics)*

John C. Bruch, Jr., Ph.D., Stanford University, Professor *(applied mathematics, numerical solutions and analysis)*

Mohammed Dahleh, Ph.D., Princeton, Associate Professor *(control and stability of dynamical systems)*

§ Anthony G. Evans, Ph.D., Imperial College, London, Professor, Co-Director of High Performance Composites Center *(fundamental research on mechanical properties and fabrication of brittle materials, including fracture, deformation, creep, fatigue, erosion, wear, NDE, sintering, and impact damage)*

Roy S. Hickman, Ph.D., UC Berkeley, Professor *(fluid mechanics, physical gas dynamics, computer-aided design)*

Keith T. Kedward, Ph.D., University of Wales, Professor *(design of composite systems)*

Frederick Leckie, Ph.D., Stanford University, Professor, Co-Director of High Performance Composites Center *(mechanics of materials, engineering design)*

§ Carlos Levi, Ph.D., University of Illinois at Urbana-Champaign, Professor *(materials processing, advanced solidification technologies, fine structures, process modelling, and microstructural analysis)*

Wilbert J. Lick, Ph.D., Rensselaer Polytechnic Institute, Professor *(oceanography and limnology, applied mathematics)*

Arunava Majumdar, Ph.D., UC Berkeley, Assistant Professor *(thermal science and microelectronics)*

Ekkehard P. Marschall, Dr. Ing., Technische Hochschule Hannover, Professor *(thermodynamics, heat and mass transfer, desalination, energy conversion, experimental techniques)*

Eric F. Matthys, Ph.D., California Institute of Technology, Associate Professor *(heat transfer, fluid mechanics, rheology)*

Stephen R. McLean, Ph.D., University of Washington, Associate Professor *(fluid mechanics, physical oceanography, sediment transport)*

Robert M. McMeeking, Ph.D., Brown University, Professor *(mechanics of materials, fracture mechanics, plasticity, computational mechanics)*

§ Frederick Milstein, Ph.D., UC Los Angeles, Professor *(materials science and metallurgy)*

Thomas P. Mitchell, Ph.D., California Institute of Technology, Professor *(theoretical and applied mechanics)*

Bradley E. Paden, Ph.D., UC Berkeley, Associate Professor *(control theory, kinematics, robotics)*

Zhigang Suo, Ph.D., Harvard University, Associate Professor *(solid mechanics, mechanics of materials, fracture and deformation)*

William T. Thomson, Ph.D., UC Berkeley, Professor Emeritus

Marshall Tulin, M.S., Massachusetts Institute of Technology, Professor, Ocean Engineering Laboratory Director *(hydrodynamics, aerodynamics, turbulence, cavitation phenomena, drag reduction in turbulent flows)*

James P. Vanyo, Ph.D., UC Los Angeles, Professor *(rotating nonrigid bodies, fluid dynamics)*

Walter W. Yuen, Ph.D., UC Berkeley, Professor *(thermal science, radiation heat transfer, heat transfer with phase change, combustion)*

§ Joint appointment with the Department of Materials

The undergraduate program in mechanical engineering is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology. The curriculum establishes a foundation in the physical and engineering sciences, mathematics, and the humanities. The undergraduate program includes courses in engineering mechanics, strength of materials, theoretical analysis, thermodynamics, heat transfer, fluid mechanics, materials science, and engineering and design. Undergraduates are also required to take laboratory courses in fluid mechanics, thermal sciences, engineering materials and design concepts, and properties of materials. During the senior year, students design and build sophisticated engineering projects, many of which have won important awards in national design competitions.

Qualified students who wish to pursue advanced engineering education may enroll in the M.S. or Ph.D. programs. The department offers programs leading to the degrees of Master of Science and Doctor of Philosophy, with a specialization in any of the following major areas: dynamic systems, control and robotics; fluid mechanics; materials science and engineering; ocean engineering; solid mechanics and structures; and thermal sciences. The curricula for all of the major areas emphasize education in broad principles and fundamentals. At the same time, programs of study and research are flexible and tailored to accommodate the individual needs and interests of the students. Interdisciplinary approaches are stressed, and students are encouraged to cross over traditional boundaries into other departments.

The M.S. program is intended to extend and broaden the undergraduate background and/or equip practicing engineers with state-of-the-art knowledge in their field. The degree may be terminal or obtained on the way to the Ph.D. The Ph.D. program is designed to prepare students for a career in research and/or teaching in their area of specialization.

Mechanical engineering graduates at all levels are highly sought after for employment with materials manufacturers and automotive, aircraft, marine, defense, and electronics industries. A major in mechanical engineering may also serve as an appropriate part of the program of studies required for a California community college teaching credential. Students who wish to secure this credential should consult the designated adviser in the Graduate School of Education.

Undergraduate counseling is provided under the direction of the assistant to the dean for undergraduate studies. Individual faculty members are also available for help in academic program planning. A graduate adviser and the department chair, in conjunction with a graduate studies committee, help to direct the program of studies for M.S. and Ph.D. candidates. Undergraduate students enrolled in other majors at UCSB who plan to change to a major in the Department of Mechanical and Environmental Engineering may obtain counseling from the assistant to the dean for undergraduate studies.

Laboratory Facilities

Well-equipped teaching and research laboratories can be used to conduct experimental and computational research in many areas.

1. Dynamical Systems Laboratory. This laboratory supports the theoretical studies undertaken in the engineering mechanics courses ME 163A-B. It provides practical experience in experimental techniques and electronic instrumentation associated with stress wave propagation, dynamic balancing, torsional oscillations, structural dynamic response, inertial navigation, and modal analysis of structures.

2. Control Systems Design Laboratory. This laboratory gives students experience analyzing, designing, and testing control systems. The major experiments performed are temperature control, speed and position control with DC motors, a force controlled gripping device, digital speed control, and assembly line control using a programmable logic controller. Controls are built by the students using analog breadboards and microprocessors.

3. Rotating Fluids Laboratory. The laboratory is equipped to investigate flow velocities and internal energy dissipation rates in rotating liquids. Results are used to predict communication satellite and rocket vehicle performance, to test analytical geophysical models of the earth's interior, and to improve understanding of phenomena in rotating and turbulent fluids.

4. Undergraduate Thermodynamics Laboratory. This laboratory is set up for undergraduate study of thermodynamics and heat transfer. Thermodynamics experiments include: a gas turbine, an engine dynamometer, two heat pumps and a facility for studying the thermodynamics of gasses. Heat transfer experiments include: an internal convection test stand, heat

transfer of a heated cylinder, measurements of the conduction and convection by spheres of different materials, and a heat exchanger test stand. The laboratory is used by students enrolled in ME 151L, and students are encouraged to use these facilities for other projects.

5. **Undergraduate Fluids Laboratory.** The major experiments in this laboratory include: a pipe flow experiment to demonstrate the practical aspects of friction factors in pipe flow and flow measurement techniques; a wind tunnel used to study lift, drag, and boundary layer phenomena; a compressible flow test stand; a water hammer test stand; a wave tank and wave generator for studying wave mechanics; a tilting flume for the study of open channel flow; and a variable pitch/speed pump to study turbomachinery. Apparatus is available for measuring important physical properties of fluids. This laboratory is used by students during ME 152L.

6. **Thermal Science Laboratory.** The laboratory contains equipment to study multi-phase flow, heat and mass transfer characteristics in boiling, condensation, direct-contact heat transfer, radiative heat transfer in combustion media, melting, and freezing. Additional equipment is available for determining various thermodynamic and transport properties.

7. **Rheology Laboratory.** This laboratory contains experiments dedicated to the fluid flow and heat transfer of non-Newtonian fluids. In particular, viscoelastic fluids are studied using flow visualization during extensional flow. Investigation of the viscous behavior of these fluids is also conducted, both experimentally and theoretically. Planned additions to the laboratory include comprehensive experimental installations dealing with convective heat transfer and fluid friction for drag-reducing polymer solutions.

8. **Materials Laboratory.** Experimental and theoretical materials science research is carried out in a variety of areas, including mechanical, thermal, magnetic, and electronic properties of materials. Extensive equipment is available for studying the metallography and the mechanical behavior of materials at high temperatures. A scanning electron microscope, microhardness testers, and X-ray diffraction equipment are also available.

9. **Materials Processing Laboratory.** This laboratory supports theoretical and experimental work on the generation and control of fine microstructures in metals and ceramics by advanced solidification technologies. Major facilities include equipment for electrohydrodynamic atomization, arc-spray metallizing, melt spinning, planar-flow casting, roll casting, and surface modification with high-energy beams, as well as conventional melting, casting, and heat treating. Additional facilities available for materials processing research include computers for process modeling, mechanical testing, and microstructural characterization equipment.

10. **Ocean Engineering Laboratory.** Research on environmental effects in the coastal zone and on the safety and reliability of marine structures is conducted in the Ocean Engineering Laboratory. Occupying 10,000 square feet in the Engineering Research Centers building, the laboratory's facilities include the 70 x 3 x 3-foot sediment transport flume. This tilting flume can separate and recirculate sediment for study of bottom sediment transport. Designed as a multi-purpose facility, the flume can also operate as a recirculating flow channel with a 10-foot-long test section of one square foot which can be operated either closed or with an open free surface at speeds greater than 12 feet per second (super critical). Thirdly, it is operated as a wave tank with the ability to combine wave and current studies. Finally, the carriage rails along the length of the flume permit continuous positioning of an instrument carriage, which in the future will allow the facility to be used also as a small towing tank. Data acquisition is performed from a centrally located computer and control room. Recently completed is a 170 x 12 x 8-foot towing tank equipped with a three-dimensional wave maker of novel design. Experimental facilities in another location on campus include circular flumes for the study of sediment entrainment and deposition. Instruments include a laser Doppler velocimeter.

11. **Computer Aided Design Laboratory.** The laboratory makes modern computers and engineering software available to students. The lab contains 20 IBM PC/AT computers and 12 SUN workstations. All computers are networked to the lab's printers, plotters, and other peripherals. CAD packages available include CADKEY, I-DEAS, Autocad, Spice, and Touchstone. Several analysis and educational packages are also provided. The lab is used in conjunction with the department's CAD/CAM curriculum, and computers are available to the students for other class work.

12. **Computer Aided Manufacturing Laboratory.** This laboratory gives students practical experience with modern manufacturing techniques. The major equipment in the lab consists of computer controlled milling machines and a CNC lathe. Students learn to program and operate the tools, and to automatically translate CAD drawings on the PC into finished parts on the machines. Drawing files can be transferred directly from computers in the CAD laboratory to the machine in the shop. Equipment is available for the design and construction of simple controlled tools by the students.

13. **Machine Shop.** The student machine shop has eight milling machines, six lathes, welding, and sheet metal equipment for student use. The shop is supervised, and instruction on the use of the tools is available. Students are encouraged to use the shop for their own design projects.

Undergraduate Program

Bachelor of Science, Mechanical Engineering

Note: Schedules should be planned to meet both General Education and major requirements. Detailed descriptions of these requirements are presented elsewhere in this announcement.

Preparation for the major

The following 100 units of lower-division courses are required: Engineering 3; Mechanical Engineering 10, 12, 14; Chemistry 1A-B-C, 1AL-BL-CL; Mathematics 3A-B-C, 5A-B-C; English 2, 3; ECE 6A-B; Physics 1, 2, 3, 4, and 3L, 4L; plus 23 units of General Education requirements.

Upper-division major

The following 80 units are required: Mechanical Engineering 140A, 150, 151A-B-C, 151L, 152A, 152L, 153, 156A-B-C, 163A, 165, 180, 180L plus 24 units of departmental electives and 13 units of general education or free electives. Requirements total 180 units.

The mechanical engineering elective courses permit students a degree of specialization in additional areas of dynamic systems, controls and robotics; fluid mechanics; materials science and engineering; environmental engineering; ocean engineering; solid mechanics and structures; and thermal sciences.

Courses required for the pre-major or major, inside or outside of the Department of Mechanical and Environmental Engineering, cannot be taken for the passed/not passed grading option. They must be taken for letter grades.

Honors Program

Students with a minimum grade-point average of 3.4 in the major may apply, in the spring quarter of their junior year, for the honors program. To qualify for honors, students must carry out a specific project under the direct supervision of a faculty member or complete two graduate courses with a grade-point average of 3.3 or better.

Graduate Program

Master of Science, Mechanical Engineering

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Admission

In addition to the general requirements for admission to graduate status, the department requires a bachelor's degree or its equivalent from a school or college of recognized standing. Applicants with undergraduate preparation that is deemed inadequate may be required to take additional courses.

Degree Requirements

Students must choose a major field from among six fields presently offered by the department:

- Dynamic systems, controls, and robotics
- Fluid mechanics
- Materials science and engineering
- Ocean engineering
- Solid mechanics and structures
- Thermal sciences

Two plans of study are offered, both requiring successful completion of 42 quarter-units of credit. Plan 1 is a combination of coursework and research, culminating in the preparation of a thesis; Plan 2 involves coursework and the completion of a written project.

Plan 1. Requires 42 units with thesis: 18 units of coursework in major field (at least 12 units of core courses in major field, at most 6 units selected from a list of approved courses), 9 units of approved elective courses in science and engineering, 3 units of graduate seminar in major field, 12 units of ME 598, and completion of thesis.

Plan 2. Requires 42 units without thesis: 21 units of coursework in major field (at least 12 units of core courses in major field, at most 9 units selected from a list of approved courses), 18 units of approved elective courses in science and engineering, 3 units of graduate seminar in major field, and completion of a project dealing with a topic in major field (should be done as part of major field graduate seminar requirement).

Doctor of Philosophy, Mechanical Engineering

The emphasis in the Ph.D. program is on the ability to correlate knowledge in the pursuit of original research.

Admission

Acceptance for admission to the Ph.D. program is subject to the general admission requirements of the Graduate Division. In addition, a Master of Science degree or its equivalent is required.

Degree Requirements

During the first year of study students are required to develop a formal study plan which must be approved by the student's faculty adviser and the department graduate adviser. In this plan, the student selects a major area and two minor areas of study from among the six fields offered by the department (see Master's Requirements for a listing of these areas). All students in the Ph.D. program are required to pass a departmental qualifying exam. The exam consists of two parts: a) the student must maintain a 3.50 GPA in the major area and a 3.0 in the two minor areas of study; b) the student must pass an oral exam in the major area and one of the minor areas.

When the qualifying exam is passed, the student selects a Ph.D. dissertation committee. A dissertation proposal must be presented by the student in an oral examination. Upon successful completion of this examination, the student advances to candidacy.

The candidate must complete a dissertation and pass a two-part defense examination consisting of a seminar talk and an oral examination conducted by the candidate's dissertation committee.

In addition to the above requirements, the Ph.D. student must complete a minimum of 27 units of graduate coursework in science and engineering beyond the M.S. degree. The department requires that the student maintain a minimum grade point average of 3.0. The student must attend 3 units of seminar courses in the major area (ME 200A or ME 200B). Before the Ph.D. degree is awarded, the student must either have presented the research material at a national conference or submitted a paper on the research to a refereed journal. There is no foreign language requirement in the program.

Specific details about the degree requirements are found in the departmental Graduate Guide. Any information in the Graduate Guide supersedes the information stated in this Catalog.

Mechanical and Environmental Engineering Courses

LOWER DIVISION

Engineering 3. Computer Solutions of Engineering and Science Problems
(3) STAFF
Prerequisites: Mathematics 3A, can be taken concurrently. Limited to lower-division majors in engineering or consent of instructor; not open to students who have completed Computer Science 5FO.

Application of computers to engineering and scientific problems. Provides working knowledge of FORTRAN language programming, using a structured FORTRAN compiler. Students will use the computer. (F)

10. Introduction to Sketching, CAD, and Conceptual Design
(4) STAFF
Prerequisite: Mechanical Engineering majors only.

Simple free-hand sketching techniques to convey engineering concepts. The use of computer-aided drafting on microcomputers for engineering analysis and design. CADKEY exercises will be based upon sketching exercises. Conceptual design projects will be carried out during the latter half of the course in which sketching and CAD will be used. (First offered in 1993-1994)

12. Manufacturing Processes
(1) STAFF
Prerequisite: ME majors only.

Use of the machine lathe, vertical mill, and other general machine shop tools will be presented through hands-on experience. (First offered in 1993-94)

14. Statics
(3) STAFF
Prerequisites: Engineering 3, Mathematics 3C, Physics 1. Open to ME majors only.

Free-body principle and Newton's third law, general force systems, distributed forces, internal forces, numerical and graphical solutions to three-dimensional problems in statics.

15. Strength of Materials
(4) STAFF
Prerequisites: Physics 1, ME 14; Mathematics 5C may be taken concurrently. Open to ME majors only.

Hooke's law and properties of structural materials. Methods of sections and virtual work and energy methods. Design applications to engineering structures, problems of tension, torsion, flexure, and combined loading. Design beyond the elastic limit.

95. Introduction to Mechanical Engineering
(1-4) STAFF
Prerequisite: consent of instructor. May be repeated up to 6 units.

Participation in design projects in the laboratory or machine shop. Projects may be student- or faculty-originated depending upon student interest and consent of faculty member. Assistance to senior design project groups may also be acceptable with consent of the project faculty adviser.

96A. Introduction to Computer-Aided Drafting
(3) STAFF
Prerequisite: consent of instructor. Class will be restricted in enrollment.

Graphical study of lines, surfaces, vectors, orthographic and pictorial drawings with dimensioning techniques, solutions of empirical data, and mathematical equations. Introduction to the design process, layout and working drawings, and computer graphics.

97. Mechanical Engineering Design Projects
(1-4) STAFF
Prerequisite: Consent of instructor and approval of faculty design committee. May be repeated for maximum of 12 units, variable hours.

Course offers students opportunity to work on established departmental design projects. P/NP grading, does not satisfy technical elective requirement.

UPPER DIVISION

Engineering 100. Engineering Economic Analysis
(3) STAFF
Prerequisite: upper-division standing in engineering or consent of instructor.

Engineering feasibility factors and engineering economic analysis. Analysis of alternatives and estimates of demands and costs in engineering.

100A. Professional Seminar
(1) STAFF
Prerequisite: undergraduate standing.

A series of weekly lectures given by university staff and outside experts in the fields of fluid mechanics, thermal science, and ocean engineering.

100B. Professional Seminar
(1) STAFF
Prerequisite: undergraduate standing.

A series of weekly lectures given by university staff and outside experts in the fields of robotics, solid mechanics, dynamics, and material science.

Engineering 101. Ethics in Engineering
(3) STAFF
Prerequisite: upper-division standing in engineering or consent of instructor.

The nature of moral value, normative judgment and moral reasoning. Theories of moral value. The engineer's role in society. Ethics in professional practice. Safety, risk, responsibility. Morality and career choice. Code of ethics. Case studies will facilitate the comprehension of the concepts introduced.

Engineering 103. Technical Writing
(3) STAFF
Prerequisite: upper-division standing in College of Engineering or consent of instructor.

Emphasis on planning and writing the kinds of engineering documents that engineers will encounter in the world of work; documents include reports, proposals, professional papers, specifications, and oral technical presentations.

111. Engineering Acoustics
(3) STAFF
Prerequisite: ME 152A or consent of instructor.

Fundamentals of acoustics; physics of sound waves; architectural acoustics, reverberation, acoustical properties of materials, interaction of sound and structures; outdoor sound propagation, community noise levels and sources, transportation noise; noise and vibration level criteria; measurement techniques. (May not be offered each year)

112. Energy Conversion
(3) STAFF
Prerequisites: ME 151A, ME 151B concurrently, or consent of instructor.

Survey of energy resources of the earth, energy consumption, and energy conversion; resume of thermodynamics, quantum and statistical mechanics. Analysis of conventional vapor and gas cycles. Fundamentals, design, and application of direct energy converters such as fuel cells, magnetohydrodynamic power generators, thermoelectric generators, thermionic generators, photovoltaic generators, Nernst effect generators, electron convection converters, electrodynamic generators, electrokinetic, and piezoelectric converters.

113. Desalination
(3) STAFF
Prerequisites: ME 151A, ME 151B concurrently, or consent of instructor.

Chemical and physical properties of ocean water, geothermal brine, and groundwater. Fundamentals of theories of distillation, freezing, reverse osmosis, electrodialysis, and other demineralization techniques. Design and application of desalination systems. Energy sources for desalination. Efficiency and economy of desalination plants.

114. Water Supply and Pollution Control

(3) STAFF

Prerequisite: ME 152A or consent of instructor.

Water supply and quality requirements for domestic, industrial, agricultural, and recreational uses. Properties of natural surface and groundwaters. Pollutants in surface and groundwaters. Transport and fates of waterborne pollutants. Water and sewage treatment processes. Waste water reclamation. Water quality management in ground and surface water environments.

115. Introduction to Air Pollution Principles

(3) STAFF

Prerequisites: ME 151A, ME 152A-B or consent of instructor.

Adverse effects, the atmosphere, macroscale motion, meso- and micrometeorology, effluent dispersion, sulfurous smog, photochemical smog, stationary sources and their control, emission formations in gasoline-powered engines, effects of design and operating variables on gasoline engine exhaust emissions, and present and future emission control systems for gasoline engines. (May not be offered each year.)

116. Fundamentals of the Internal Combustion Engine

(3) STAFF

Prerequisites: ME 151A-B-C; ME 152A-B.

Application of thermodynamics and fluid mechanics to internal combustion engines. Analysis of thermodynamics cycles (OHO and diesel) under actual engine operating conditions. Understanding of various engine components such as carburetor, intake manifold, exhaust manifold, and catalytic converter. Effects of engine operating parameters on auto emission. May not be offered each year.)

118. Introduction to Physical Oceanography

(3) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent; ME 152A or equivalent.

Properties of sea water, basic physical principles and dynamics equations, currents with and without friction, stratified flow and thermohaline effects, waves and tides. Emphasis is on dynamics oceanography.

119. Introduction to Coastal Engineering

(3) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent; ME 152A or equivalent.

Quantitative description of tides and waves, especially in the coastal zone. Refraction, reflection, and diffraction of waves, harbor resonance, and design, interaction of structures and waves, sediment and contaminant transport.

120. Introduction to Marine Technology

(3) STAFF

Prerequisites: ME 15 and ME 152A or equivalent.

Materials and corrosion. Pressure vessel technology. Surface ships. Submerged structures. Hydrostatics and hydrodynamics, cavitation. Dynamics of underwater vehicles. Propulsion and control. Life support systems. Communication.

121. Introduction to Sediment Transport

(3) STAFF

Prerequisite: ME 152A or equivalent.

Mechanics of particle-fluid interaction; initial motion; fluid lift and drag on sediment particles, critical shear stress, settling velocity. Transport equations; bed load and suspended load. Effect of particles on the boundary layer flow. Bed forms; ripples and dunes. Fine grain sediment cohesion.

122. Turbomachinery

(3) STAFF

Prerequisites: ME 151A-B, 152A-B.

Review of thermodynamics and fluid mechanics of turbomachinery, blade diagrams. Characteristics of compressors, pumps, blowers, operating diagrams and selection based on requirements. Types of machines: radial, mixed, and axial flow. Applications: for example, turbo boosters for internal combustion engines. A design project will be required as part of this course.

125A-Z. Special Topics in Mechanical Engineering

(3) STAFF

Prerequisite: consent of instructor.

Individual courses each concentrating on one area in the following subjects: applied mechanics, CAD/CAM, controls, design, environmental engineering, fluid mechanics, materials science, mechanics of solids and structures, ocean and coastal engineering, robotics, theoretical mechanics, thermal sciences, and recent developments in mechanical engineering.

126. Introduction to Environmental Engineering and Science

(3) LICK

Prerequisite: upper-division standing.

An introduction to environmental problems and their solutions. We will discuss surface water, ground water, and air pollution as well as risk analysis and the treatment of hazardous wastes.

132. Celestial and Orbital Mechanics

(3) STAFF

Prerequisites: Physics 1 and mathematics of the lower-division engineering curriculum.

Fundamentals of particle dynamics, two-body and central force problems, orbit determination, transfer orbits, orbital perturbation, re-entry dynamics, lunar and interplanetary trajectories. (May not be offered each year.)

133. Rotating Fluids

(3) STAFF

Prerequisites: ME 163A, ME 152A-B, or consent of instructor.

Review of classic rotating fluids analyses and experiments in the fields of oceanographics, atmospherics, space vehicles, and rotating machinery. Navier-Stokes equations transformed to a rotating coordinate system. Laminar and turbulent flows and boundary layer phenomena in rotating fluid systems.

140A. Theoretical Analysis in Mechanical Engineering

(4) STAFF

Prerequisites: Mathematics 5A-B-C. Open to ME and ECE majors only.

Introduction to the mathematical modeling of engineering problems and their methods of solution. Emphasis on the formulation of problems in terms of ordinary differential equations and difference equations. Solutions by means of numerical, perturbation, and analytic methods.

140B. Theoretical Analysis in Mechanical Engineering

(3) STAFF

Prerequisites: ME 140A. Open to ME and ECE majors only.

Introduction to the mathematical modeling of engineering problems and their methods of solution. Emphasis on the formulation of problems in terms of partial differential equations. Solutions by means of numerical, perturbation, and analytic methods.

150. Introduction to Design

(1) STAFF

Prerequisites: four of the following five courses ME 140A, 151A, 151B, 152A, 152B. Open to ME majors only.

Introduction to the design process. Idea generation techniques: brainstorming, synectics, morphological forced connections, etc. Conceptualization of a design project in preparation for ME 156.

151A. Thermosciences

(4) STAFF

Prerequisites: Mathematics 5A-B-C and upper-division standing. Open to ME and ECE majors only.

Basic laws and concepts of thermodynamics such as pressure, temperature, energy, and entropy are discussed; their applications to various systems are considered. Consideration is given to the molecular structure and physical properties of the solid, liquid, and gaseous states. Introduction to vapor power cycles.

151B. Thermosciences

(4) STAFF

Prerequisites: ME 151A. Open to ME majors only.

Application of basic thermodynamic principles and laws to energy conversion systems, gas mixtures, statistical thermodynamics, irreversible thermodynamics, conduction heat transfer.

151C. Thermosciences

(3) STAFF

Prerequisites: ME 151B, ME 152A, ME 152B; ME 151L concurrently. Open to ME majors only.

The study of the fundamentals of heat transfer using the phenomena of conduction, radiation, and convection, application and analysis of steady state, transient, and combined mode problems.

151L. Thermoscience Laboratory

(1) STAFF

Prerequisites: ME 151A-B-C, concurrently. Open to ME majors only.

Experiments in heat transfer and thermodynamics. Characteristics of heat exchangers, and the performance of vapor and gas cycles will be determined. Flow over a heated cylinder and expansion and compression of gases will be studied. Heat transfer by conduction and radiation will be investigated. Introduction to measuring techniques for the determination of mass and energy flow rates, pressure, temperature, and heat transfer coefficients.

152A. Fluid Mechanics

(4) STAFF

Prerequisites: lower-division courses in engineering, physics, and mathematics. Open to ME and ECE majors only.

Introduction to the fundamental concepts in fluid mechanics and basic fluid properties. Basic equations of fluid flow. Dimensional analysis and similitude. Hydrodynamics.

152B. Fluid Mechanics

(3) STAFF

Prerequisite: ME 152A. Open to ME majors only.

Incompressible viscous flow. Boundary-layer theory. Introductory considerations for one-dimensional compressible flow.

152L. Fluid Mechanics Laboratory

(1) STAFF

Prerequisites: ME 152A-B.

Use of laboratory models to simulate engineering and oceanic scale phenomena. Wind tunnel experiments to measure and analyze fluid motions, lift, and drag on scale models. Water channel experiments to measure and analyze sediment transport, waves, and turbulence. Fluids in rotating machinery and geophysical systems.

153. Design of Engineering Systems

(3) STAFF

Prerequisites: junior standing. ME 151A, 163A. 152A may be taken concurrently.

Engineering communication. Sketching. Dimensioning. Tolerance build-up and statistical problems in manufacturing and reliability. Design of systems utilizing fluid mechanics, thermodynamics, mechanics, stress analysis. Specifications, requests for proposals, proposal response. Minimum two paper projects completed by all students during course.

154. Introduction to Computer-Aided Design/Manufacturing

(3) STAFF

Prerequisites: ME 14, 15, 140A, 151A-B-C, 152A-B, and 163A.

Introduction to computer-aided design program creation. A brief introduction to UNIX and Plot 10, applied to FORTRAN-based programs. Three-dimensional transfer. Motions and general rotation. Extensive project involvement is expected on the part of the students.

155A. Control Systems Design

(3) STAFF

Prerequisites: ME 140A, 151A-B-C, 152A-B, and ME 163A. Open to ME majors only.

Study of linear feedback systems, transfer functions, stability, root locus, Nyquist diagrams, frequency response, and state space techniques. Design and synthesis of control systems.

155AL. Control Systems Design Laboratory

(1) STAFF

Prerequisites: ME 155A concurrently. Open to ME majors only.

Design of feedback control system; feedback compensation to meet specified design criteria.

155B. Control Systems Design

(4) STAFF

Prerequisite: ME 155A, ME 155AL or consent of instructor.

State space analysis of feedback control system, controllability, observability, nonlinear systems, optimal control. Sampled data systems, including the design and laboratory implementation of microcomputer-controlled feedback control systems.

156A. Engineering Materials and Design Concepts

(4) STAFF

Prerequisites: ME 15, 150, 151A-B-C, 152A, 153, 163A and 180. Open to Mechanical Engineering majors only.

Selection of engineering materials, stress and strain considerations in design of machine elements. Hertz stress and fatigue strength requirements. Use of Ashby charts for material selection. Design projects will be used to reinforce lecture topics. Preparation of detailed shop drawings.

156B. Mechanical Engineering Design

(4) STAFF

Prerequisite: ME 156A. Open to Mechanical Engineering majors only.

Design of specific machine elements: springs, bearings, drive train components, fasteners, etc. Design considerations for manufacturing: metal fabrication, composite structures, molding, CNC, weldments, adhesive bonding. Topics covered will be applied in several practical projects culminating in completion of formal design.

156C. Selected Topics in Design

(4) STAFF

Prerequisite: ME 156A-B. Open to Mechanical Engineering majors only.

Continuation of ME 156B topics. Lectures by practicing professional design engineers on current topics in machine design, solution of design problems posed by guests. Application of design principles to student hardware design projects. Student design presentations.

156D. Thermal Systems Design

(4) MARSCHALL

Prerequisite: senior standing.

Design course in which students analyze and design thermal systems such as desalination plants, geothermal power plants, air liquefaction plants as well as system components such as heat exchangers, regenerators, etc. Will build on concepts introduced in ME 156A-B, ME 151A-B-C, and ME 152A-B.

156F. Electromechanical System Design

(4) PADEN

Prerequisite: ME 163A.

Laboratory based course in which students design and build simple machines controlled by microprocessors. Emphasis will be placed on interfacing sensors and actuators to the microprocessor and programming control algorithms. Will build on concepts introduced in ME 163 and will serve as motivation for advanced controls courses.

156S. Introduction to Machine Shop

(1) STAFF

Prerequisite: concurrent enrollment in the ME 156 sequence. Limited to 30 students and to declared majors in the field. Seniors will be given first priority for fall quarter classes. Laboratory, 1 hour.

Use of the machine lathe, vertical mill, and other general machine shop tools will be presented through hands-on experience. This course should be taken by those ME upper-division students who expect to need machine shop skills for construction of their senior projects.

157A. Design of Optimal Systems

(3) STAFF

Prerequisites: ME 140A.

Application of operations research methods to the design of engineering components and systems. Treatment of engineering design as a nonlinear constrained optimization problem. Algorithms for linear and nonlinear programming. Computer applications using a general purpose optimization program.

157B. Design of Optimal Systems

(3) STAFF

Prerequisites: ME 157A. Open to ME majors only.

Continuation of probability and statistical procedures. Application of computer simulation method to the design, optimization, and use of complex systems.

160. Gas Dynamics and Propulsion

(3) STAFF

Prerequisites: ME 151A-B, ME 152A-B.

Resume of fundamentals of gas dynamics, thermodynamics, and combustion. Subsonic and supersonic two-dimensional flows. Method of characteristics. Normal and oblique shocks. Analysis of compressible flow through ducts, nozzles, and in gas turbines, rockets, and ram jets.

162. Introduction to Elasticity

(3) STAFF

Prerequisites: ME 15, ME 140A.

Equations of equilibrium, compatibility, and boundary conditions. Solutions of two-dimensional problems in rectangular and polar coordinates. Eigensolutions for the wedge and Williams' solution for cracks. Stress intensity factors. Extension, torsion and bending. Energy theorems. Introduction to wave propagation in elastic solids. (May not be offered each year.)

163A. Engineering Mechanics

(4) STAFF

Prerequisites: Physics 1, 2, Mathematics 5A-B, and ME 14. Open to ME and ECE majors only.

Kinematics and dynamics for two- and three-dimensional motion. Newton's laws, momentum, work, energy, and power. Applications to mechanisms, machine elements, dynamic balancing, and gyroscopic motion.

163B. Engineering Mechanics

(3) STAFF

Prerequisites: ME 140A and ME 163A. Open to ME majors only.

Topics relating to vibration in mechanical systems; exact and approximate methods of analysis, matrix methods, generalized coordinates and Lagrange's equations, applications to systems with several degrees of freedom and to continuous systems.

163L. Engineering Mechanics Laboratory

(1) STAFF

Prerequisites: ME 163B may be taken concurrently. Open to ME majors only.

Experimental and computer design laboratory which applies the basic principles of mechanics to vibrations, orbital dynamics, structural response, wave propagation. Includes introduction to instrumentation.

165. Strength of Materials

(3) STAFF

Prerequisites: Physics 1, ME 14, Math 5C. Open to engineering students only.

Hooke's law and properties of structural materials. Methods of sections and virtual work and energy methods. Design applications to engineering structures, problems of tension, torsion, flexure and combined loading. Design beyond the elastic limit. (First offered in 1994-95)

166. Advanced Strength of Materials

(3) STAFF

Prerequisites: ME 15 and ME 140A.

Analysis of statically determinate and indeterminate systems using integration, area moment, and energy methods. Beams on elastic foundations, curved beams, stress concentrations, fatigue, and theories of failure for ductile and brittle materials. Photoelasticity and other experimental techniques are covered, as well as methods of interpreting in-service failures.

167. Structural Analysis

(3) STAFF

Prerequisites: ME 15 and 140A. ME 166 recommended.

Computer-oriented course for the analysis of structural systems composed of bars and beams using matrix manipulation. Formation of stiffness and flexibility matrices. Matrix formulation of the equations of equilibrium and compatibility. Displacement (stiffness) and force (flexibility) methods.

168. Applied Finite Element Analysis

(3) STAFF

Prerequisites: ME 15 and 140A. ME 167 recommended.

Introductory course in use of finite elements to solve analytical and design problems. Topics include: theoretical basics, finite element discretization (nodes, elements); interpolating polynomials; applications to elasticity problems, heat transfer/irrotational fluid flow; isoparametric formulation, practical considerations in modeling, interpretation of results using FEM codes.

170A. Introduction to Robotics: Robot Mechanics

(4) STAFF

Prerequisites: ME 163A; ECE 147A or ME 155A-AL; or consent of instructor. Prerequisites may be taken concurrently. Same course as ECE 181A.

Overview of robot kinematics and dynamics. Structure and operation of industrial robots. Robot performance: workspace, velocity, precision, payload. Comparative discussion of robot mechanical designs. Actuators. Robot coordinate systems. Kinematics of position. Dynamics of manipulators.

170B. Introduction to Robotics: Robotic Sensing

(4) STAFF

Prerequisite: ECE 181A or ME 170A; or consent of instructor. ECE 178 recommended.

Overview of robot sensing technology. Mechanical, acoustic, thermal, electric, magnetic, optical, and chemical sensors. Characteristics of sensor devices. Emphasis on visual sensors. Description, recognition, and understanding of images. Design emphasis on integrating different types of sensors on one robot or robot system.

170C. Introduction to Robotics: Robot Control

(4) STAFF

Prerequisites: ECE 181A or ME 170A; ECE 181B or ME 170B; and ECE 147B; or consent of instructor.

Overview of robot control technology from open-loop manipulators and sensing systems, to single-joint servovalves and servomotors, to integrated adaptive force and position control using feedback from machine vision and touch sensing systems. Design emphasis on accurate tracking accomplished with minimal algorithm complexity.

173. Control Systems Synthesis

(3) DAHLEH

Prerequisite: ME 155A or ECE 147A.

Pole-placement, observer design, observer-based compensation, frequency and time-domain techniques, internal model principle, linear quadratic regulators, modeling uncertainty in signals and systems, robust stability and performance, synthesis for robustness.

180. Introduction to Materials

(3) STAFF

Prerequisite: upper-division standing in engineering. Same course as Nuclear Engineering 180.

Introduction to the structure and properties of engineering materials and the principles underlying structure-property relationships. Crystal structure, defects, phase equilibria, diffusion and phase transformation kinetics, mechanical behavior and strengthening mechanisms, and the effects of processing and environment on structure and properties.

180L. Materials Laboratory

(1) STAFF

Prerequisites: ME 180 (may be taken concurrently). Open to Mechanical Engineering, Chemical Engineering, and Nuclear Engineering majors only. This laboratory is required for Mechanical Engineering majors.

Experiments illustrating the fundamentals of structure and properties of materials, as well as the relationships between properties, structure, processing, and environmental interactions. Spatial arrays and imperfections, phase equilibria and structural transformations, mechanical behavior, corrosion, and effects of processing on structure.

185. Materials in Engineering
(3) STAFF

Prerequisite: ME 180 or equivalent.

This course will introduce the student to the main families of materials and the principles behind their development, selection, and behavior. It will discuss the generic properties of metals, ceramics, and polymers more relevant to mechanical engineering applications. The relationship of properties to structure and processing will be emphasized in every case.

193. Internship in Industry
(3) STAFF

Prerequisite: consent of instructor. Prior departmental approval needed. Cannot be used as a departmental elective. May be repeated to a maximum of 6 units.

Special projects for selected students offered in conjunction with industrial practice in selected industrial and research firms, under direct faculty supervision.

195. Directed Research
(3) STAFF

Prerequisite: consent of instructor. This course cannot be used as a departmental elective and may not be repeated beyond a total of 6 units.

Special research projects open to selected students. Research projects are to be arranged by student and supervising faculty. The course is designed to give qualified undergraduates early experience in research.

196. Undergraduate Research
(2-4) STAFF

Prerequisite: Students must: (1) have attained upper-division standing, (2) have a minimum 3.0 grade-point average for the preceding three quarters, (3) have consent of the instructor. May be repeated for up to 12 units. Not more than 4 units may be applied to departmental electives.

Research opportunities for undergraduate students. Students will be expected to give regular oral presentations, actively participate in a weekly seminar, and prepare at least one written report on their research.

197. Independent Projects in Mechanical Engineering Design
(1-4) STAFF

Prerequisite: consent of instructor and approval of faculty design committee. May be repeated for a maximum of 12 units, variable hours. No more than 4 units may be used as departmental electives.

Special projects in design engineering. Course offers motivated students opportunity to synthesize academic skills by designing and building new machines. May be used to satisfy department technical elective requirement.

199. Independent Studies in Mechanical Engineering
(1-4) STAFF

Prerequisites: consent of instructor. Students must have 1) attained upper-division standing; 2) a minimum of 3.0 grade-point average for the preceding three quarters; and 3) completed at least two upper-division courses in mechanical and environmental engineering. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. No more than 4 units may be used as departmental electives. May be repeated to 12 units.

Directed individual study.

GRADUATE COURSES

200A. Professional Seminar
(1) STAFF

Prerequisite: graduate standing.

A series of weekly lectures given by university staff and outside experts in the field of fluid mechanics, thermal science, and ocean engineering.

200B. Professional Seminar
(1) STAFF

Prerequisite: graduate standing.

A series of weekly lectures given by university staff and outside experts in the field of robotics, solid mechanics, dynamics, and materials science.

200P. Master of Science Project
(3) STAFF

Prerequisite: graduate standing.

A ten-week research project on an advanced topic in Mechanical Engineering.

201. Advanced Dynamics
(3) STAFF

Prerequisites: ME 163A-B-L or equivalent.

Vectorial dynamics, conservation theorems, particle and rigid body motion; analytical dynamics, lagrange equations, rigid body dynamics, normal modes of oscillation.

202. Advanced Dynamics
(3) STAFF

Prerequisite: ME 201.

Variational methods, Hamiltonian mechanics, Hamilton-Jacobi equation, Liouville's theorem, Liapunov stability, qualitative theory of dynamical systems.

203. Nonlinear Mechanics
(3) STAFF

Prerequisite: ME 201.

Phase plane analysis, criteria of stability, study of Van der Pol, Duffing, Mathieu equations, Poincare-Bendixson theorem, method of Krylov-Bogoliuboff, equivalent linearization, perturbation methods.

204. Numerical Modeling in Physical Oceanography
(3) STAFF

Prerequisites: introductory courses in fluid mechanics and applied mathematics.

Numerical models of currents, waves, tides, temperatures, salinity, the transport of sediments and contaminants, and the transport of turbulence will be reviewed and discussed. Both finite difference and finite element models will be included but the emphasis will be on physical and mathematical modeling principles and applications rather than on mathematical details. Applications to oceans and lakes will be discussed.

205. Perturbation Methods in Applied Mathematics
(3) STAFF

Prerequisites: ME 140A or equivalent.

An introduction to perturbation (approximation) methods used in applied mathematics and engineering. Specific topics will include regular and singular perturbations which depend on a small parameter or coordinate, approximate and asymptotic solutions of ordinary and partial differential equations, asymptotic evaluation of integrals, method of matched asymptotic expansions, N-timing and multiple-scaling methods, and coordinate stretching methods.

206. Simulation of Dynamical Systems
(3) STAFF

Prerequisite: ME 201 or consent of instructor.

Kinematics and dynamics of mechanisms; joint constraints; numerical methods; constrained systems; stochastic processes; mappings; chaotic response of structures; Monte Carlo methods.

208. Sediment Transport
(3) LICK

Prerequisite: ME 220A or equivalent.

The transport and fate of fine-grained sediments and contaminants in aquatic systems. Includes resuspension, flocculation, settling speeds and numerical modeling of hydrodynamics, sediment and contaminant transport in rivers, lakes, estuaries, and nearshore oceanic areas. Risk analysis.

214. Rotation of Nonrigid Bodies and Fluids
(3) STAFF

Prerequisite: consent of instructor.

Review dynamics of general rigid body motion. Extension to nonrigid bodies. Rotating fluids, vorticity, and secondary flows. Application to geophysics (e.g., oceanographics), space vehicles, and rotating machinery.

219. Continuum Mechanics
(3) STAFF

Prerequisites: ME 152A-B or equivalent. Same course as Materials 207.

Matrices and tensors, stress deformation and flow, compatibility conditions, constitutive equations, field equations and boundary conditions in fluids and solids, applications in solid and fluid mechanics.

220A-B. Fundamentals of Fluid Mechanics
(3-3) STAFF

Prerequisites: ME 151A-B and 152A-B, or consent of instructor.

Introductory course in fluid mechanics. Basic equations of motion (continuity, momentum, energy, vorticity), coordinate transformations, "potential" flow, thin airfoil theory, conformal mapping, vortex dynamics, boundary layers, stability theory, laminar/turbulent transition, turbulence. Inviscid/viscid, irrotational/rotational, incompressible/compressible flow examples.

221. Advanced Viscous Flow
(3) STAFF

Prerequisite: consent of instructor.

Review the Navier-Stokes equations in velocity, pressure, and vorticity variables. Analyze details of important low and moderate Reynolds number flow applications and then high Reynolds number flows with boundary layer phenomena. Compare exact, approximate, numerical, and experimental solution methods.

222. Compressible Flow
(3) STAFF

Prerequisites: ME 151A-B or equivalent, ME 219.

Review of one-dimensional and oblique shock waves. Prandtl-Meyer expansion. Method of characteristics for two-dimensional steady, one-dimensional unsteady, and axisymmetric flow. Croccos' theorem. Viscous compressible boundary layer.

223. Turbulent Flow
(3) STAFF

Prerequisites: ME 152A-B or equivalent.

Nature and origin of turbulence, boundary layer mechanics — law of the wall, wakes, and jets, transport of properties, statistical description of turbulence, measurement problems, stratification effects. Application of principles to practical problems will be stressed.

224. Physical Gas Dynamics
(3) STAFF

Prerequisites: ME 222 and ME 251.

Behavior of equilibrium and nonequilibrium gas flows at very high temperatures including vibrational, translational, chemical, and radiative effects.

225AA-ZZ. Special Topics in Mechanical Engineering
(3) STAFF

Prerequisite: consent of instructor.

Specialized courses dealing with advanced topics and recent developments in one or more of the following areas: dynamic systems, control and robotics, fluid mechanics, materials science and engineering, ocean engineering, solid mechanics and structures, thermal sciences.

226A. Applied Numerical Methods
(3) STAFF

Prerequisites: ME 140A or consent of instructor.

An introduction to the numerical solution of ordinary and partial differential equations by means of finite difference and finite element procedures.

226B. Applied Numerical Methods
(3) STAFF

Prerequisites: ME 226A or consent of instructor.

Weighted residual and finite element methods for the solution of partial differential equations with application to problems in fluid mechanics, heat flow, and mass transport.

227A. Fluid Dynamics
(3) STAFF

Prerequisites: ME 152A-B or equivalent.

Fundamentals of fluid dynamics, mostly incompressible: deformation and stress in general fluids, conservation statements and fundamental laws of motion for gases and liquids, vorticity, vector fields, singularities, analytic function methods applied to a variety of planar flows.

227B. Fluid Dynamics
(3) STAFF
Prerequisite: ME 227A.

Inviscid flow: mapping and thin body theory applied to airfoils and cavitating flows; flow modeling, separated flows and wakes, self-similarity, water entry. Viscous effects: deviatoric stresses, linear fluids, vortex straining and diffusion, dimensional methods, exact viscous flows, laminar boundary layer.

229. Seminar in Fluid Mechanics
(3) STAFF
Prerequisite: consent of instructor.

Lectures by resident and guest speakers on the various facets of fluid mechanics, emphasizing historical perspectives, industrial applications, and research frontiers. Students, as members of small teams, will carry out engineering projects, deliver oral presentations and prepare a final written report.

230. Elasticity
(3) STAFF
Prerequisite: ME 219. Same course as Materials 230.

Review of the field equations of elasticity. Energy principles and uniqueness theorems. Elementary problems in one and two dimensions. Stress functions, complex variable methods and three-dimensional potential functions. Fundamental solutions in two and three dimensions. Approximate methods.

231. Seminar in Solid Mechanics and Structures
(3) STAFF
Prerequisite: consent of instructor.

Lectures by resident and guest speakers on the various facets of solid mechanics and the theory of structures, emphasizing historical perspectives, industrial applications, and research frontiers. Students, as members of small teams, will carry out engineering projects, deliver oral presentations, and prepare a final written report.

232. Plasticity
(3) STAFF
Prerequisite: ME 230. Same course as Materials 232.

Plastic, creep, and relaxation behavior of solids. Mechanics of inelastically strained bodies; plastic stress-strain laws; flow potentials. Torsion and bending of prismatic bars, expansion of thick shells, plane plastic flow, slip line theory. Variational formulations, approximate methods.

233A-B. Design of Composite Structures
(3-3) KEDWARD
Prerequisite: ME 230, 275A or consent of instructor.

Emphasis is placed on the differences of design with composites vis a vis the design of conventional metallic structures. The content is directed at the class of polymer-matrix composites.

234A. Structural Dynamics
(3) STAFF
Prerequisites: ME 163A-B, and 166.

Formulation of the equations of motion for free and forced response of single and multi-degree of freedom systems and for distributed-parameter systems. Modal analysis. Approximate solution techniques. Numerical algorithms. Damping.

234B. Probabilistic Theory of Structural Dynamics
(3) STAFF
Prerequisite: ME 234A.

Statistical and spectral description of random processes. Correlation and spectral density. Response of linear dynamic systems to random loading. Crossing rates and distribution of peaks and maxima. Fatigue and failure under random loading. Long-term description: statistics of extremes.

239. Conduction Heat Transfer
(3) STAFF
Prerequisite: undergraduate course in heat transfer.

Development of mathematical representation of conduction heat transfer and techniques available for analytical, analog, and numerical solutions.

240. Convective Heat Transfer
(3) STAFF
Prerequisite: undergraduate course in heat transfer.

Solutions to the momentum, continuity, and energy equations will be considered for both natural and forced convection. Applications to industrial problems, convective transfer in high-speed flows, heat transfer in rarefied flows, and the effects of chemical reactions on convective rates will be included.

241. Radiative Energy Transfer
(3) STAFF
Prerequisite: undergraduate course in heat transfer.

The physical nature of radiation and of its interaction with matter, conservation principles in radiative transfer and their relation to molecular and convective processes, and thermodynamic equilibrium with consideration of nondimensional parameters will be considered. Applications to astrophysics, combustion, and plasma technology will be discussed.

242. Seminar in Thermal Sciences
(3) STAFF
Prerequisite: consent of instructor.

Lectures by resident and guest speakers on the various facets of thermal sciences, emphasizing historical perspectives, industrial applications and research frontiers. Students, as members of small teams, will carry out engineering projects, deliver oral presentations, and prepare a final written report.

245. Numerical Methods for Free and Moving Boundary Problems
(3) STAFF
Prerequisite: some knowledge of finite difference and finite element methods.

A basic introduction to functional analysis. Formulation and numerical solutions for free and moving boundary problems with applications to such problems as steady and unsteady seepage, jets and cavities, melting and solidification of pure metals and alloys that freeze over a range of temperatures, etc.

250. Advanced Thermodynamics
(3) STAFF
Prerequisites: ME 151A-B.

An extended treatment of the fundamentals of classical thermodynamics, including availability and reversibility, the chemical potential, properties of matter, thermochemistry, chemical equilibrium of real gases and gas mixtures.

251. Statistical Thermodynamics
(3) STAFF
Prerequisites: ME 151A-B.

An extended treatment of the fundamentals of statistical thermodynamics, equilibrium distributions, properties of gases, liquids, and solids.

252. Computational Fluid Dynamics
(3) STAFF
Prerequisites: ME 226A or equivalent.

Numerical modeling of fluid flows. Basic difference equations for mass, momentum, and energy conservation. Discussions of appropriate boundary conditions. Applications to incompressible and compressible flow, aerodynamics, free-surface flows, lake and ocean currents.

255A. Automatic Feedback Control
(3) STAFF
Prerequisites: ME 163B, 155A, or equivalent.

Automatic feedback control systems; examples, fundamental concepts, classification, mathematical description. Methods of analysis and compensation for linear and nonlinear systems. Basic design procedures. Adaptive and optimal control.

255B. Nonlinear Control Systems
(3) STAFF
Prerequisites: ME 255A, Mathematics 101B, or consent of instructor.

Review of ordinary differential equations; existence and uniqueness of solutions. Linearization techniques. Various notions of stability and the determination of stability using Lyapunov or energy functions. Applications to the control of mechanical systems with an emphasis on the control of robot manipulators.

257. Optimization of Engineering Design
(3) STAFF
Prerequisites: ME 157A-B or equivalent.

Analytical and computer optimization techniques applied to engineering designs and systems. Includes advanced topics in operations research and computer simulation methods integrated with classical optimization techniques of calculus and numerical methods. Individual projects will be assigned to apply optimization techniques to an engineering design or system in an area where the student is already technically competent.

258. Optimum Structural Design
(3) STAFF
Prerequisites: ME 157A or ME 257, ME 226A or equivalent.

Synthesis of structural systems; design oriented analysis; design as an optimization task, fully stressed design, optimality criterion methods, mathematical programming methods. Application to mechanical, aeronautical, civil, and ocean structures.

260A. Materials Structures and Bonding
(3) STAFF
Prerequisite: consent of instructor. Same course as Materials 204A.

Crystal structures (Miller indices, Bravais lattices, symmetry operations, bases, crystal diffraction, reciprocal lattices, Brillouin zones); elements of statistical thermodynamics and quantum mechanics; ionic, covalent, and metallic bonding.

260B. Bonding and Crystal Elasticity
(3) STAFF
Prerequisite: consent of instructor. Same course as Materials 204B.

Bonding and elasticity in metals, ceramics, and salts. Atomistic basis for structure, elastic behavior, and stability of crystals.

261. Seminar in Materials Science and Engineering
(3) STAFF
Prerequisite: consent of instructor.

Lectures by resident and guest speakers on the various facets of materials science and engineering, emphasizing historical perspectives, industrial applications, and research frontiers. Students, as members of small teams, will carry out engineering projects, deliver oral presentations, and prepare a final written report.

262. Thermodynamics of Materials
(3) STAFF
Prerequisite: consent of instructor. Same course as Materials 201.

Advanced thermodynamics with emphasis on phase transformations, properties of solutions, and multicomponent systems.

264. Mechanical Behavior of Materials
(3) STAFF
Prerequisite: consent of instructor.

Fundamentals of deformation and fracture of materials, and strengthening through micro-structural control. Time independent plasticity and hardening mechanisms. Creep and superplasticity. Fracture mechanics. Crack propagation and toughening mechanisms. Stress corrosion cracking. Fatigue. Fracture statistics.

265. Composite Materials
(3) STAFF
Prerequisite: consent of instructor. Same course as Materials 261.

Stress and strain relations in composites. Residual stresses. The fracture resistance of organic and inorganic matrix composites. Statistical aspects of fiber failure. Composite laminates and delamination cracks. Cumulative damage concepts. Interface properties. Design criteria.

268. Solidification Processing
(3) STAFF
Prerequisite: consent of instructor. Same course as Materials 250.

Transport phenomena, thermodynamics and kinetics of solidification. Principles of solute redistribution: microsegregation and macrosegregation. Evolution of solidification microstructure: plane front, cellular, dendritic and cooperative growth. Metastable structures and interfacial nonequilibrium.

270A. Robot Motion
(3) STAFF
Prerequisites: ME 170A-B-C (ECE 181A-B-C) or equivalent, or consent of instructor.

Advanced course on kinematics, dynamics, and control of robots. Position and force control. Efficient computation of kinematics and dynamics. Control of kinematically redundant robots. Control of closed link robots. Coordinated control of multiple robots. Control of multifingered robot hands.

271. Finite Element Structural Analysis
(3) STAFF

Prerequisites: ME 167 or equivalent, and ME 219. Same course as Materials 240.

Definitions and basic element operations. Displacement approach in linear elasticity. Element formulation: direct methods and variational methods. Global analysis procedures: assemblage and solution. Plane stress and plane strain. Solids of revolution and general solids. Isoparametric representation and numerical integration. Computer implementation.

272. Advanced Finite Element Structural Analysis
(3) STAFF

Prerequisites: ME 271 and 234A.

Computer techniques for linear dynamic analysis of structures. Solution of large eigenvalue problems. Step-by-step integration of equations of motion. Analysis of structures with material and/or geometric nonlinearities. Computational techniques and computer program development. Iteration and step-by-step strategies.

274. Theory of Shell Structures
(3) STAFF

Prerequisites: ME 219, 230 or equivalent.

Fundamental equations for deformation of thin shells with small deflections. Approximate theories, including membrane theory and bending theory. Circular cylindrical shells, and shells of revolution. Finite element analysis of shell structures. Applications to the analysis of tubular joints for offshore structures.

275A. Fracture Mechanics
(3) STAFF

Prerequisite: ME 230. Same course as Materials 234.

Analytic solutions of a stationary crack under static loading. Elastic and elastoplastic analysis. The J integral. Energy balance and crack growth. Criteria for crack initiation and growth. Dynamic crack progagation. Fatigue. The micromechanics of fracture.

275B. Advanced Fracture Mechanics
(3) STAFF

Prerequisite: ME 275A. Same course as Materials 236.

Theoretical and experimental basis for theories of crack propagation in nonlinear or in homogeneous materials. Topics selected from: elastoplastic fracture mechanics in large scale yielding; stable elastoplastic crack growth; creep cracking; cracks near bimaterial interfaces; stress corrosion cracking; and others.

276. Theory of Elastic Stability
(3) STAFF

Prerequisites: ME 163A, ME 166 or equivalent.

Concepts of stability of equilibrium and motion in mechanical systems, geometric nonlinearities, conservative and follower forces, buckling of bars, plates and shells. Quasi-linear approach and nonlinear methods. Post-buckling behavior and imperfection sensitivity. Dynamic instabilities. Inelastic buckling.

277. Stress Waves in Solids
(3) STAFF

Prerequisites: ME 219, ME 230 or equivalent.

Longitudinal and shear waves in solids. Reflection and refraction at an interface. Rayleigh waves. Sudden application of point and line-loads on a 3-D and a half-space. Incident wave on a stationary crack. Propagation in bounded media (bars, plates).

281. Analysis and Design of Marine Structures
(3) STAFF

Prerequisites: ME 234A-B.

Different types of offshore structures. Statistical description of sea states. Wave forces on offshore structures. Effects of current and wind. Response of offshore structures to environmental loads. Quasi-static vs. dynamic approach. Deterministic vs. stochastic approach. Risk analysis: state-of-the-art, codes, current practice and tendencies.

283A. Waves in Fluids
(3) TULIN

Prerequisite: ME 152A-B or equivalent.

The fundamental mechanics of water and acoustic waves. Governing equations. Wave propagation, refraction, and reflection. Noise generation. Dispersive effects; group velocity; stationary phase; ray theory. Onshore waves. Ship waves and wave resistance. Introduction to nonlinear effects; Stokes limiting wave; solitons.

283B. Advanced Water Waves
(3) TULIN

Prerequisite: ME 283A.

Advanced mechanics of waves, especially ocean waves. Linear stochastic wave systems; spectra. Nonlinear wave interactions. Wave stability and deformation; breaking. Wave group evolution; the cubic Schrodinger equation. Non-conservative systems: wind forcing, dissipation, and diffusion. Chaotic motions; soliton wave groups.

284. Advanced Hydrodynamics
(3) TULIN

Prerequisite: ME 152A.

Vorticity and vortical flows. Governing equations; vorticity theorems. Vorticity generation. Vortex dynamics. Vortex pairs. Karman street. Vortex sheets, tip vortices; trailing wake stability. Sheet and shear waves; Kelvin-Helmholz and shear stability. Rayleigh instability. Secondary flows. Discharge vortices. Vortex breakdown.

285. Geophysical Fluid Dynamics
(3) MCLEAN

Prerequisite: ME 152A.

The ocean-atmosphere systems. Air-sea interaction. Governing equations for rotating system: conservation of mass, momentum and energy. Ocean surface waves: generation, spectral characteristics. Internal waves. Geostrophic motion. Rotating boundary layers: Ekman dynamics. Tides. Kelvin waves.

286. Nearshore Processes
(3) MCLEAN

Prerequisite: ME 152A.

Nearshore wave dynamics: shoaling, breaking, run-up. Beach processes: longshore currents, undertow, rip currents, infragravity waves. Turbulent boundary layers: wave-current interaction. Sediment transport: critical conditions, bedload and suspended load, bedforms, scour, inlet migration and closure, harbor siltation, cliff erosion.

289. Ocean Engineering: The Future
(3) STAFF

Prerequisite: graduate or upper-division standing.

Lectures by resident and guest speakers on the various facets of ocean engineering, emphasizing new prospects and possibilities. Students, as members of small teams, will carry out research on feasibility studies and prepare oral reports and a final 20-page paper.

290. Seminar in Dynamic Systems, Control and Robotics
(3) STAFF

Prerequisite: consent of instructor.

Lectures by resident and guest speakers on the various facets of the theory of dynamic systems, control, and robotics, emphasizing historical perspectives, industrial applications, and research frontiers. Students, as members of small teams, will carry out engineering projects, deliver oral presentations, and prepare a final written report.

291. Optimal Control of Dynamic Systems
(3) STAFF

Prerequisites: ME 163B and ME 155A, or equivalent.

Introduction to the classical calculus of variations. Optimization problems for dynamic systems with terminal and path constraints. Necessary and sufficient conditions. Neighboring extremal paths and the second variation. Singular solutions. Numerical solutions of optimal control problems. Applications to engineering systems.

501. Teaching Assistant Practicum
(1-4) STAFF

Prerequisites: Normally required of students serving as teaching assistants. No unit credit allowed towards advanced degree.

Practical experience in the various activities associated with teaching, including lecturing, supervision of laboratories and discussion sections, preparation and grading of homework and exams.

503. Research Assistant Practicum
(1-4) STAFF

Will not count as unit credit towards M.S. or Ph.D. degree in mechanical engineering.

Practical experience in the various activities associated with research, including experimental work, theoretical work and analyses, and assisting department faculty and other professional researchers in their duties.

596. Directed Reading and Research
(3) STAFF

Prerequisite: consent of instructor. Cannot be used as part of the course requirements towards the M.S. and Ph.D. degree. S/U grading.

Individual tutorial. Instructor usually student's major professor. A written proposal for each tutorial must be approved by the department chair.

597. Individual Study for Ph.D. Qualifying Examination
(1-12) STAFF

Prerequisite: graduate standing. No unit credit allowed toward advanced degree. Maximum of 12 units per quarter; enrollment limited to 24 units per examination. Instructor is normally student's major adviser. S/U grading.

Individual studies for Ph.D. qualifying examination.

598. Master's Thesis Research and Preparation
(1-12) STAFF

Prerequisite: consent of thesis adviser. No unit credit allowed toward advanced degree.

For research underlying the thesis and writing of the thesis.

599. Ph.D. Dissertation Research and Preparation
(1-12) STAFF

Prerequisite: consent of dissertation adviser. No unit credit allowed toward advanced degree.

For research and preparation of the dissertation.

College of Letters and Science

College of Letters and Science, Cheadle Hall, Second Floor
Faculty and Administrative Affairs, Cheadle Hall 2217; Telephone (805) 893-3506
Student Academic Affairs, Cheadle Hall 2119; Telephone (805) 893-2038

Acting Provost: Llad Phillips
Dean of Undergraduate Affairs: Lester P. Monts
Acting Dean, Division of Humanities and Fine Arts: Porter Abbott
Acting Dean, Division of Mathematical, Life, and Physical Sciences: Daniel W. Hone
Acting Dean, Division of Social Sciences: Don H. Zimmerman
Acting Dean, Undergraduate Studies: David M. Kohl
Associate Dean, Program Support: Dolores M. Hsu
Associate Dean, Honors and Special Programs: Philip C. Laris

The College of Letters and Science is the largest center of teaching, learning, and research on the UCSB campus and the third largest in the University of California system. The college serves over 15,000 undergraduates and offers nearly 80 majors, including a number of interdisciplinary programs.

Students in the College of Letters and Science thrive on the academic diversity and strength of a research university, but also benefit from the college's commitment to undergraduate education. Opportunities for intellectual exchange with senior faculty abound, even at the lower-division level. The college curriculum provides opportunities for exploration and intellectual breadth through completion of the General Education program, and for depth through the acquisition of the intellectual skills, perceptions, and methods of a specific academic discipline.

The college office, headed by the dean of undergraduate affairs, offers academic advising and direction. Five faculty members from diverse disciplines serve as assistant and associate deans and are available for consultation on a variety of academic matters. Peer and college advisers assist students in individual consultations and in small group meetings and workshops.

Academic departments and programs form the core of the College of Letters and Science and are grouped into three divisions: the Division of Humanities and Fine Arts; the Division of Mathematical, Life, and Physical Sciences; and the Division of Social Sciences. The divisions foster intimate communities of scholars within the larger campus setting. Once students declare their major, they will affiliate closely with their division, attending lectures and seminars which bring together faculty members and students in allied fields of study.

Division of Humanities and Fine Arts

The Division of Humanities and Fine Arts provides the foundation of the liberal arts education, focusing on the artistic and intellectual traditions of cultures throughout the world. Students in arts and humanities departments develop a sensitivity to language, an ability to express themselves clearly and with conviction, a familiarity with the power of literature and art, and a fresh awareness of timeless philosophical issues.

Starting in their freshman year, students have an opportunity to take courses taught by scholars in the first rank of national and international recognition. They can choose to major in an array of traditional fields including art (either art history or art studio), classics, dance, Asian studies, Chinese, Japanese, drama, English, film studies, French, German, history, Italian cultural studies, linguistics, music, philosophy, Portuguese, religious studies, Slavic languages and literatures, and Spanish. The division also encourages cooperation between students and scholars in diverse areas, creating an exciting synergy between such disciplines as environmental studies and art, music and computer science, and anthropology and literature. If students wish, they can major or pursue studies in such interdisciplinary programs as medieval studies, Renaissance studies, comparative literature, or Latin American and Iberian studies. Or they can, with the guidance of professors in several fields, develop their own special scholarly focus under the aegis of the Program in Interdisciplinary Studies. The division's Interdisciplinary Humanities Center also provides a setting for cross-disciplinary exchange, sponsoring colloquia and seminars in which faculty and students explore issues on the cutting edge of research in the humanities. To help facilitate and enrich their studies, students in the humanities and fine arts can draw on the resources of an art museum, a two-million volume library, a humanities computing facility, and a large microcomputer laboratory.

Division of Mathematical, Life, and Physical Sciences

The Division of Mathematical, Life, and Physical Sciences is committed to the transmission of accumulated formal knowledge and structure in mathematics and the natural sciences. It also promotes the quantitative and scientific literacy so essential to intelligent participation in an increasingly technological society. The division offers courses and degrees in mathematics and statistics, in the life sciences of biology and psychology, and in the physical sciences of chemistry, geography (which also includes a social scientific focus in areas of "human geography"), geology, and physics. In addition, the division is home to a unique, interdisciplinary, problem-oriented program (and popular major) in environmental studies. Allied departments in the division with particular strengths and interest in areas of ecology and the environment include biological sciences, geography, and geological sciences. A Graduate School of Environmental Science and Management has recently been approved for the campus. The division's undergraduate majors offer excellent preparation for graduate and professional schools, including medical schools, where our graduates have had unusually high acceptance rates.

Graduate programs and research are strong throughout the division. In addition to the usual departmental areas of graduate study, special interdisciplinary programs include those in neuroscience and in biochemistry and molecular biology. Unusual opportunities for strong interdisciplinary ties, and for interactions with distinguished visiting scientists from around the world, are fostered by a remarkable group of centers and institutes on campus. These include the Institute for Theoretical Physics, the Marine Science Institute, the David Simonett Center for Spatial Analysis (one of the few world centers for exploration and utilization of remote sensing techniques), the Institute for Free Electron Laser Studies, the Institute for Polymers and Organic Solids, the Center for the Study of Quantum Electronic Structures, and the Materials Research Laboratory.

Division of Social Sciences

The Division of Social Sciences develops in its students an understanding of the rich variety of the world's societies. Students in the division also learn to address important issues like internationalization, the link between science and technology and human affairs, modes of conflict and communication within and between societies, and how the economy is affected by governmental decisions. In addition to the social science disciplines of anthropology, communication, economics, political science, and sociology, the division hosts a number of interdisciplinary programs, including Asian American studies, Black studies, Chicano studies, women's studies, global peace and security, and law and society. The division also encourages cross-disciplinary discussion in areas such as gender studies and the link between economy and society, which bring together anthropologists, economists, political scientists, and sociologists. Departments and programs within the division also maintain and from time to time develop new interdisciplinary ties with programs in the other divisions of the college. For example, students and faculty are currently involved in archaeological research and study combining anthropology, geology, biology, and history. The division is also home to the Physical Activities Program.

Research in the Division of Social Sciences is supported by a state-of-the-art Social Sciences Computing Facility.

Admission

Any student who is admissible to the university may be accepted by the College of Letters and Science provided that the college does not have more qualified applicants than openings, in which case preference will be given to advanced-standing students who are ready to enter the upper division, and to freshmen. Further, if the number of qualified applicants at either the junior or freshman levels exceeds the number of openings, admission to specific departments within the College of Letters and Science may be based on consideration of prior coursework, scholastic achievement, examination scores, or other factors.

Degree Requirements

The College of Letters and Science offers four bachelor's degrees: the Bachelor of Arts, the Bachelor of Science, the Bachelor of Fine Arts, and the Bachelor of Music. A full list of available degrees and majors is presented in the first chapter of this catalog. (See "Academic Units", page 10.)

The bachelor's degree requirements for students in the College of Letters and Science are as follows:

General University Requirements

Subject A—English Composition
American History and Institutions
Academic Residence
Grade-Point Average

General Education Requirements

(appropriate to degree chosen)

Major Requirements

(appropriate to degree chosen)

Unit Requirements

General university requirements are described in the chapter of this catalog called "Undergraduate Education at UCSB," major requirements are described under each department and program, and General Education and unit requirements are described in the remainder of this chapter.

General Education Requirements

The aim of the General Education program in the College of Letters and Science is to provide a body of knowledge of general intellectual value that will give the student a broad cultural base. The program stresses an appreciation of the humanities and the fine arts, as well as an understanding of the natural and social sciences.

Students in the College of Letters and Science must complete the General Education requirements appropriate to their degree (B.A., B.S., B.F.A., or B.M.), in order to qualify for graduation.

Requirements may be satisfied with courses completed on the UCSB campus, with equivalent courses completed at another accredited institution, or by means of College Entrance Examination Board Advanced Placement credit. A list of courses that satisfy the various area requirements in the General Education program appears below.

Students entering UC Santa Barbara as transfers from California Community Colleges may have their General Education requirements considered satisfied by virtue of completion of the Intersegmental General Education Transfer Curriculum (I.G.E.T.C.). This is a program of at least 34 semester-units of articulated coursework spread across six liberal arts subject areas. If fully completed prior to matriculation at UCSB and certified by the community college, I.G.E.T.C. will be accepted in satisfaction of the General Education Program. Transfer students who have any omissions in the I.G.E.T.C. program must satisfy all requirements within the General Education Program. Through fall quarter 1993, transfer students who have completed the Transfer Core Curriculum (a program similar to I.G.E.T.C. which expires in fall 1993) may substitute that coursework for the General Education Program; students who believe they have completed the Transfer Core Curriculum should consult the advising staff in the college office.

General Provisions Governing All Degree Candidates

1. Courses in the student's major can also be used to fulfill General Education requirements.
2. While fulfilling Areas C, D, E, and F, students may use up to three distinct courses (but no more than three) from any single department. (Example: If History 4A and 4B are used for Area E-1, then History 17A could also apply toward Area D-2; if Black Studies 15 is applied to Area D-1, then Black Studies 5 could apply to Area E-2, as could Black Studies 127 to Area F-2a.) This provision does not alter the internal department and/or disciplinary restrictions in each of the areas.
3. Courses taken to satisfy the General Education requirements may also be applied simultaneously to the American History and Institutions requirement. (Refer to page 28.)
4. A course listed in more than one area can be applied to only one area. (Example: Art History 6A cannot be applied to both E-1 and F-1.)

Bachelor of Arts Degree

In the process of fulfilling the General Education area requirements, students must take the following:

1. At least six designated General Education courses that require the writing of one or more papers totaling at least 1,800 words. Courses applicable to this requirement are listed below. Once a student has matriculated at UCSB, the writing requirement may be met only with designated UCSB courses.
2. At least one course that focuses on a non-Western culture. Courses applicable to this requirement are listed below.
3. At least one course from Area C emphasizing quantitative relationships. Courses applicable to this requirement are listed below.
4. At least one course that focuses on the history and the cultural, intellectual, and social experience of racial minorities and/or other ethnic groups in the United States. Courses that meet this requirement are listed below. The ethnicity requirement applies to all Letters and Science students who began as freshmen at UCSB or any other college in the fall of 1989 or thereafter. Transfer students who began college as freshmen before fall of 1989 and who transfer to UCSB before fall of 1991 are not held to this requirement.

AREA A

English Reading and Composition

English 2 and one of the following: English 3, 10, 106, 106WP, or 109AA-ZZ.

Students who have not met the freshman English requirement at the time of admission are encouraged to do so by the end of the sophomore year. None of the above English courses can be dropped after the fifth day of instruction.

AREA B

Foreign Language

The foreign language requirement may be satisfied in one of the following four ways:

1. By completing Language 3 (third quarter) at UCSB or its equivalent at another college or university. Students fulfilling Area B with this method will require 184 overall units and 166 Letters and Science units to fulfill degree requirements.
2. By achieving a College Board Achievement Test score of 500 or higher or a College Board Advanced Placement Examination score of 3 or higher in a foreign language.
3. By completing the third year of one language in high school with a grade-point average for third-year language of at least B-.
4. By passing a UCSB foreign language placement examination at the appropriate level.

AREA C

Science, Mathematics, and Technology

Three courses are required, each representing a different scientific discipline. One course must be from Area C-1; one course must be from Area C-2; the third course can be from Area C-1, C-2, or C-3 provided that it is in a discipline different from the other two courses taken. *Note: In Area C-1, biology, botany, and zoology are considered different disciplines. The discipline of Natural Science 1A is physics, the discipline of Natural Science 1B is chemistry, and the discipline of Natural Science 1C is biology.*

C-1: The Biological Sciences.

Biology 1, 3, 4A, 4C, 20, 21, 23, 24, 25; Botany 20; Chemistry 142A; Geology 7, 30, 111; Natural Science 1C; Zoology 25, 40.

C-2: The Physical Sciences.

Astronomy 1; Chemistry 1A+1AL, 25; Geography 3; Geology 2, 4, 20, 101, 123; Natural Science 1A, 1B; Physics 1, 6A+AL, 7A, 10.

C-3: A Third Scientific Discipline.

Anthropology 5; Biology 28, 114; Computer Science 5AA-ZZ; Economics 5; Environmental Studies 12, 13, 115; Geography 119; History 106A-B-C, 107A-B-C-E; Mathematics 3A, 7A, 34A, 109A; Philosophy 183; PSTAT 5, 5A, 5E, 5P, 5S; Psychology 5, 106.

AREA D

Social Sciences

One course must be taken from three of the four areas. The three courses must be from different departments.

D-1: The Individual in Society.

Anthropology 129; Asian American Studies 3, 8, 121; Black Studies 15, 122, 137E, 139A; Chicano Studies 1B, 115, 120, 130A, 154F, 155W, 164, 172; Communication 1; Geography 153; German 165, 186; Linguistics 20, 131, 132, 180; Music 193D; Psychology 1, 101, 102, 103, 105, 107, 108; Religious Studies 15; Sociology 2, 137E, 139A, 142, 152A, 154A, 154F, 155W, 170.

D-2: The Shaping of Human Cultures.

Anthropology 2, 3, 4, 102, 108, 109, 110, 114, 117, 122, 123, 131, 134, 134H, 135, 136, 137, 141, 142, 144, 147, 148A, 156, 163, 171; Asian American Studies 1, 2, 4, 101, 102, 103, 104, 111; Black Studies 1, 3, 6, 7, 30A-B, 36, 60A-B, 121, 160, 169A-B; Chicano Studies 1A, 1C, 140, 141, 144, 168A-B, 175; Environmental Studies 11, 122, 130A-B, 132, 164; Geography 106, 150, 155; German 33, 147; History 17A-B-C, 70A-B, 72, 78, 105, 107S, 131F, 159A-B, 167C, 168A-B, 169A-B, 175A-B; Japanese 140, 150; Linguistics 130; Music 116, 116A, 193E, 193J; Political Science 120, 154, 171; Religious Studies 7, 14, 35, 40, 110D, 114B-C-D, 115A, 115D, 131F, 131H, 131I, 141A-B-C, 147A-B-C-D-E-F-G-H-1-J, 151A-B, 152, 161A, 171; Sociology 1, 111, 123, 126, 128, 131, 131H, 132, 133, 134, 144, 153, 155A, 155M, 164, 166; Spanish 178; Women's Studies 20, 30.

D-3: Economic Systems.

Asian American Studies 114; Economics 1, 2, 109, 110; Geography 5; History 127, 167B, 167D; Political Science 185.

D-4: Political Systems.

Black Studies 20, 102, 103; Chicano Studies 131, 174; History 7, 171A-B, 172A-B; Law and Society 1; Political Science 1, 2, 12, 100, 109, 113, 115, 121, 127, 129, 130, 135, 136, 146A, 147, 150A, 151, 152, 158.

AREA E

Civilization and Thought

Three courses must be taken. Two must be from E-1 and must be chosen from the same discipline. The third course may be from Area E-1 or E-2.

E-1: Western Civilization.

Art History 6A-B-C; Comparative Literature 30A-B-C; History 4A-B-C; Philosophy 21A-B-C; Religious Studies 80A-B-C.

E-2: World Civilizations and Thought.

Anthropology 117, 138H; Black Studies 5, 7; Chinese 33; Classics 100A-B, 101, 106, 108; Economics 111, 112A-B; French 67X, 106A-B-C; Geography 126; German 108A-B, 167, 178, 189A; History 8, 46, 49, 80, 86, 90, 101A-B-C, 106A-B-C, 107A-B-C-E, 114A-B-C-D, 125A-B, 143, 144, 149C, 180DA-DB, 180E; Italian 106X-Y-Z; Japanese 32; Mathematics 13; Music 17, 193H; Philosophy 1, 1HS, 2, 3, 4, 25, 32, 100A-B-C-D-E, 112, 115; Political Science 187, 188, 189; Portuguese 125A-B; Religious Studies 1, 3, 5, 6, 8, 12, 20, 21, 25, 50, 101, 116A, 126, 130, 164A; Russian 33; Spanish 118A-B, 153, 180; Women's Studies 50.

AREA F

The Arts and Literature

Two courses must be taken, each from a different discipline: aesthetics, art history, art studio, dance, dramatic art, film studies, or music. One course must be taken from F-2a and one course must be taken from F-2b.

F-1: The Arts.

Aesthetics: Chinese 144; Philosophy 136.

Art History: Art History 1, 6A-B-C-D-E-F-G-H-I, 145, 146, 150, 151D, 155B, 156B, 157A-B-C, 158A-B, 159A-B-BB-D-E-F, 160A-B-C, 161A-B, 161H, 164F-G; Chicano Studies 138, 145, 146; Classics 180D.

Art Studio: Art Studio 125.

Dance: Dance 45, 145A-B-C.

Dramatic Art: Chicano Studies 187; Dramatic Art 5, 60, 60S, 61, 106, 155, 155A-B, 160A-B-C-D-E-F, 162.

Film Studies: Black Studies 170; Film Studies 46, 101A-B-C, 120, 123, 125A-B, 133, 136, 146, 161, 163, 165, 175, 191, 192, 193; French 178X-Y; German 180Z; Italian 180Z.

Music: Black Studies 14, 142; Music 11, 15, 16, 112A-B-C-D-E-F, 115, 115B, 117, 118A-Z, 119, 132, 193D-E-H-I.

F-2a: English or American Literature.

Asian American Studies 5, 122, 123, 124, 125, 133; Black Studies 38A-B, 127; Chicano Studies 180, 181, 188A-B, 190; English 20, 30, 40, 113AA-ZZ, 114AA-ZZ, 115, 117A-B-E, 118, 120, 121, 122AA-TT, 124, 126A-B-C-D, 128AA-ZZ, 131, 133AA-ZZ, 134AA-ZZ, 135, 136A-B-C, 137A-B, 138A-B-C, 139, 140, 145, 150, 152A-B, 153, 154, 157, 162, 165AA-ZZ, 172, 177, 178, 179, 180, 181, 187, 189, 190, 191, 192, 193; Philosophy 146A; Women's Studies 40.

F-2b: Literature of a Non-English Language.

Readings in English: Chicano Studies 137; Chinese 110A-B, 111, 112A-B, 115A-B, 142, 145; Classics 35, 36, 37, 38, 39, 40, 102, 120, 130; Comparative Literature 100, 127; English 116A, 116B, 116C, 144, 184; French 68X, 106X, 120X, 130X, 136X, 142X, 150X, 160X, 161X, 164X, 167X, 170X-Y-Z, 171X, 174X, 175X, 180X, 196X; German 30A-B, 138, 161, 162, 163, 164G, 166, 168, 169, 172, 173, 174, 174E, 175, 177, 182, 187, 192; Hebrew 110, 111; History 174E, 192; Italian 38X, 114X-Y-Z, 116Y, 130X, 139X-Y-Z, 140X; Japanese 110A-B-C, 112, 115, 116; Music 187; Philosophy 146B; Portuguese 114, 115, 120; Russian 115A-B, 125, 131, 133; Scandinavian 137; Spanish 115A-B, 120A-B, 142A-B, 171.

Readings not in English: Chinese 124A-B, 132A-B-C, 138A-B-C; French 136A-B-C-D-E, 140B-C, 141, 142, 143, 150A-B, 153, 154, 160, 163, 164, 168, 170A-B-C, 180A-B-C; German 100, 115A-B-C, 126, 127A, 130, 142, 146, 148; Italian 110, 116, 150A; Portuguese 105A-B-C, 106A-B-C, 185; Religious Studies 142A-B-C; Russian 122, 123; Spanish 30.

Courses that Apply to the Writing Requirement

Courses noted on the list below may apply to Areas C-F as well as to the writing requirement. At least six courses that require the writing of one or more papers totaling at least 1,800 words must be taken. Once a student has matriculated at UCSB, the writing requirement may be met only with designated UCSB courses.

Anthropology 3, 4, 122, 123, 134H, 135, 138H, 141, 163, 171; Art History 6A-B-C-D-F-G-I, 7E, 150, 155B, 156B, 157A-B-C, 158A-B, 159A-B-BB-D-E-F, 160B-C, 161A-B, 161H, 164G; Asian American Studies 1, 2, 4, 5, 8, 101, 102, 103, 104, 111, 114, 121, 122, 123, 124, 125, 133; Biology 21, 28; Black Studies 1, 5, 6, 7, 14, 20, 30A-B, 36, 38A-B, 60A-B, 102, 103, 127, 130A-B, 137E, 160, 170; Chicano Studies 1A-B-C, 144, 154F, 164, 168A-B, 172, 175, 180, 181; Chinese 33, 110A-B, 112A-B, 124A-B, 132A-B, 138A-B-C; Classics 35, 38, 39, 101, 102, 106, 120; Communication 1; Comparative Literature 127; Dance 145A-B-C-M; Dramatic Arts 61, 106, 155A-B, 160A-B-C-D-E-F; English (all courses assigned to Areas F-2a and F-2b); Environmental Studies 11, 122, 164; Film Studies 46, 101A-B-C, 125A-B, 146, 163,165, 191, 192, 193; French 67X, 68X, 106A-B-X, 120X, 130X, 136A-B-C-D-E-X, 140B-C, 141, 142, 142X, 143, 150A-B-X, 153, 154, 160, 160X, 167X, 168, 170A-B-C, 170X-Y-Z, 171X, 174X, 175X, 178X-Y, 180A-B-C-X; Geography 126; Geology

Advanced Placement Credit/ General Education Program

Advanced Placement Exam with score of 3, 4, or 5	**Units awarded**	**General Education course credit**	**UCSB course equivalent** *(You may not enroll in these courses for credit at UCSB.)*
American Government and Politics	4	D-4	Political Science 12, 100
American History	8	None	(no equivalent)
Art History	8	F-1: 1 course	Art History 1
*Art Studio General Portfolio	8	None	Art 5A
Drawing Portfolio	8	None	Art 5A
Biology	8	C-1	Biology 20; Natural Science 1C
Chemistry	8	C-2**	Chemistry 25, Natural Science 1B
Comparative Government and Politics	4	D-4	Political Science 2
***Computer Science A	2		
***Computer Science AB	4	C-3**	Computer Science 5PA
Economics–Microeconomics	4	D-3	
Economics–Macroeconomics	4	D-3	
*English Composition and Literature or Language and Composition			
With score of 3	8		English 1
With score of 4	8	English 2	English 2
With score of 5	8	English 2, 3	English 2, 3
European History	8	E-2	(no equivalent)
French Language			
With score of 3	8	B	French 1-5
With score of 4 or 5	8	B	French 1-6
French Literature			
With score of 3	8	B	French 1-5
With score of 4 or 5	8	B	French 1-6
German Language or Literature			
With score of 3	8	B	German 1-5
With score of 4 or 5	8	B	German 1-6
Latin: Virgil	4	B	Latin 1-3, 50
Latin: Catullus-Horace	4	B	Latin 1-3, 50
*Mathematics—Calculus AB	4	C-3**	Mathematics 2A, 3A, 15, 34A, or equivalent
*Mathematics—Calculus BC	8	C-3**	Mathematics 2A, 2B, 15, 3A, 3B, 7B, 15, 34A, 34B or equivalent
*Music—Listening and Literature	8	F-1: 1 course	Music 15, 16
*Music—Theory	8	None	Music 11
*Physics–B	8	C-2**	Physics 10, Natural Science 1A
*Physics–C (Mechanics)	4	C-2**	Physics 6A
*Physics–C (Electricity and Magnetism)	4	C-2**	Physics 6B
Psychology	4	D-1	Psychology 1
Spanish Language			
With score of 3	8	B	Spanish 1-5
With score of 4 or 5	8	B	Spanish 1-6
Spanish Literature	8	B	(no equivalent)

A maximum of 8 units EACH is allowed in the following subjects: art studio, English, mathematics, music, and physics.

*****Also satisfies the quantitative relationship requirement in Area C.***

******Maximum credit for both exams combined: 4 units.***

123; German 30A-B, 33, 138, 147, 148, 163, 164G, 165, 166, 169, 173, 174E, 175, 177, 178, 180Z, 182, 187, 189A; Hebrew 110, 111; History 4A-B-C, 7, 8, 17A-B-C, 46, 49, 70A-B, 72, 80, 90, 101A-B, 106A-B-C, 114A-B-C-D, 125A-B, 131F, 143, 144, 149C, 159A-B,167B, 167D, 171A-B, 172A-B, 174E, 180D, 180DA-DB; Italian 38X, 106X-Y-Z, 114X-Y-Z, 116Y, 130X, 139X-Y-Z, 140X, 180Z; Japanese 32, 110A-B-C, 112, 113A, 140, 150; Linguistics 131, 180; Music 112A-B-C-D-E-F, 115, 115B, 116, 116A, 117, 118A-Z, 187, 193D-E-H-I-J; Philosophy 1, 1HS, 2, 4, 5, 21A-B-C, 25, 32, 100A-B-C-D-E, 112, 115, 136, 146A-B; Political Science 1, 2, 12, 100, 102, 113, 115, 129, 136, 150A, 151, 152,154, 185; Portuguese 114, 115, 120, 125A-B; Religious Studies 3, 7, 14, 15, 20, 21, 35, 80A-B-C, 110D, 114B-C-D, 115D, 116A, 126, 130, 131F, 131I, 141A-B-C, 147A-B-C-D-E-F-G-H-I-J, 151A-B, 161A, 164A; Scandinavian 137; Sociology 2, 123, 125, 128, 137E, 153, 154A, 155M, 170; Spanish 115A-B, 118A-B, 120A-B, 142A-B, 171, 180; Women's Studies 20, 30, 40, 50.

Courses that apply to the Requirement in Quantitative Relationships

At least one course from Area C which emphasizes quantitative relationships is required.

Astronomy 1; Biology 114; Chemistry 1A+1AL, 25; Computer Science 5AA-ZZ; Economics 5; Environmental Studies 115; Geology 2, 4, 7, 20, 101, 123; Mathematics 3A, 33, 34A, 109A; Natural Science 1A-B; Physics 1, 6A+AL, 7A, 10; PSTAT 5, 5A, 5E, 5P, 5S; Psychology 5.

Courses that apply to the Non-Western Culture Requirement

At least one course that focuses on a non-Western culture is required. Courses noted on the list below also may apply to Areas D, E, and F. Refer to above General Education list for specifics.

Anthropology 2, 3, 102, 108, 110, 114, 117, 122, 131, 134, 134H, 135, 136, 137, 138H, 141, 142, 144, 148A, 156, 163, 171; Art History 6D-E-I, 7E, 151D; Asian Studies 120; Black Studies 3, 5, 7, 130A-B, 144; Chinese 33, 110A-B, 111, 112A-B, 115A-B, 124A-B, 132A-B, 138A-B-C, 142, 144, 145; Environmental Studies 122, 130A-B; Film Studies 120, 161; History 46, 49, 80, 86, 90, 143, 144, 149C, 180D, 180DA-DB, 180E; Japanese 32, 110A-B-C, 112, 113A, 115, 116, 140, 150; Music 116A, 193E-H-I-J; Philosophy 2, 146B; Political Science 135, 136, 146A, 147, 150A; Religious Studies 3, 20, 21, 131H, 161A, 164A; Sociology 131H; Women's Studies 30, 50.

Courses that apply to the Ethnicity Requirement

The courses listed below will satisfy the ethnicity requirement and may be applied to their respective areas of the General Education Program. Following this list is a supplementary list of courses which also meet the ethnicity requirement but do not apply to any other part of General Education.

Anthropology 148A; Art History 145, 146, 151D; Asian American Studies 1, 2, 3, 4, 5, 8, 101, 102, 103, 104, 111, 114, 121, 122, 123, 124, 125, 133; Black Studies 1, 5, 6, 14, 15, 20, 38A-B, 50, 60A-B, 102, 103, 121, 122, 127, 137E, 139A, 142, 160, 169A-B, 170; Chicano Studies 1A-B-C, 115, 130A, 131, 138, 140, 144, 145, 146, 154F, 155W, 164, 168A-B, 172, 174, 175, 180, 181, 188A-B, 190; English 134AA, 134AF, 134CH, 134NA, 191; History 70A-B, 167C, 168A-B, 169A-B; Linguistics 180; Music 116A, 193D; Religious Studies 14, 110D, 114B-C-D; Sociology 128, 137E, 139A, 144, 153, 154F, 154M, 155W.

Supplementary list of courses which meet the ethnicity requirement but do not apply to any other part of General Education:

Asian American Studies 115, 127, 131, 136; Black Studies 50; Chicano Studies 11, 130B, 139, 143, 147, 168E-F, 169, 170A, 171, 178, 189; History 11, 160A-B, 168E-F, 169M, 170, 179D; Religious Studies 9, 147D; Spanish 109.

Bachelor of Science Degree

Candidates for the Bachelor of Science degree must complete the following area requirements: Area A; Area B; Area C (applies to biopsychology majors only; all other B.S. majors are excused from Area C); Area D (applies to all B.S. majors except biopsychology majors, who are excused from Area D); Area E or Area F (the student selects one entire area for completion).

Students must take at least four General Education courses that require the writing of one or more papers totaling at least 1,800 words. Once a student has matriculated at UCSB, the writing requirement may be met only with designated UCSB courses. These courses are identified on the list of courses that apply to the writing requirement. Students are not required to complete the non-Western culture requirement. Students who entered as freshmen in fall 1989 or later must fulfill the ethnicity requirement.

Bachelor of Fine Arts Degree; Bachelor of Music Degree

Candidates for the degree of Bachelor of Fine Arts or Bachelor of Music must complete the following area requirements: Area A; Area B; one course from Area C-1; one course from Area C-2; Area D or Area E; one course from Area F-2a; and one course from Area F-2b.

Students must take at least four General Education courses that require the writing of one or more papers totaling at least 1,800 words. Once a student has matriculated at UCSB, the writing requirement may be met only with designated UCSB courses. These courses are identified on the list of courses that apply to the writing requirement. Students are not required to complete the non-Western culture or the quantitative requirement. Students who entered as freshmen in fall 1989 or later must fulfill the ethnicity requirement.

Honors

The College of Letters and Science is committed to academic excellence and offers students with records of superior scholarship a number of special opportunities.

College of Letters and Science Honors Program

The College Honors Program permits students to intensify their educational experience, to pursue individual excellence, and to participate in a small community atmosphere within the larger university setting throughout their four years of undergraduate study. College Honors Program participants benefit from increased contact with both faculty and peers in small classes and special programs.

Freshman and sophomore honors program students may enroll in special sections of large introductory courses that provide preparation for their major or in Honors Forum courses *(see below)*. Both groups of courses may fulfill General Education area requirements.

Upper-division College Honors Program students may design their own honors contract courses and independent studies courses, and have special research opportunities available to them. In addition, they may participate in the departmental senior honors programs described below.

Honors program participants enjoy graduate library privileges, preferential class enrollment, use of the honors study lounge, and special advising services.

The College Honors Program is open to entering freshmen who have an overall grade-point average of 3.6 or better and a combined SAT score of 1300 or better or an ACT score of 31 or better or who qualify through the Honors Opportunity Program *(see below)*. College of Letters and Science students with a minimum UCSB grade-point average of 3.5 or better on at least 16 graded baccalaureate units are also eligible. Transfer students may apply for consideration if they enter UCSB with a 3.6 grade-point average.

Students may continue as program members as long as they maintain the required grade-point average and participate in program activities. A minimum grade of B is required for the honors designation to be assigned to a course.

To complete the program and receive the Academic Excellence Award, a student must earn 36 units of honors-designated courses with at least a B grade and with a minimum overall grade-point average of 3.5. No more than 16 of the honors-designated units may be lower-division. Completion of 20 units of upper-division honors-designated courses qualifies transfer students for the Academic Excellence award. The total number of honors-designated units is reduced to 28 for students who participate in the University of California's Education Abroad Program.

Undergraduate research opportunities combine two of UCSB's greatest resources, the distinction of its research faculty and the excellence of its undergraduate programs. Honors students may engage in independent and team research under the supervision of a faculty researcher. Special access to advising and research funding are available to honors program participants. Contact the Office of Special Programs for additional information.

A Certificate of Academic Excellence will be awarded by the College of Letters and Science provost and dean of undergraduate affairs to all graduating seniors who complete the College Honors Program.

The Honors Forum is a series of interdisciplinary courses primarily for upper-division students. These courses are taught by some of UCSB's most dedicated professors. Small class settings encourage the exchange of ideas and ensure individual attention from faculty. A new selection of Honors Forum courses is announced at the beginning of each quarter.

The Honors Opportunity Program provides special access privileges to college honors for entering women in nontraditional fields and for low-income, minority, disabled, and other underrepresented students. Contact the College Honors Program office for more information.

Departmental Senior Honors Programs

Most departments in the college sponsor honors programs that provide opportunities for research and independent study in the major field.

Departmental honors program members are usually selected at the end of their junior year. They devote much of their senior year to the design and completion of an original research project or senior thesis. Honors program participants are granted special UCSB Library privileges normally available only to graduate students. In addition, they are eligible to apply for the President's Undergraduate Fellowships to help defray the expenses of their projects. In 1992-93, a total of $28,800 from these fellowships was divided among 29 UCSB students.

Dean's Honors

The award of Dean's Honors is granted at the end of each quarter to those students who earn a grade-point average of 3.75 or higher for the quarter, on a program of 12 or more graded units. Part-time students may qualify for Dean's Honors if they earn the necessary grade-point average on 12 graded units during a period of two or more consecutive quarters. The receipt of Dean's Honors is recorded permanently on the transcript. Receipt of I, unreported, or NP grades ordinarily disqualifies students from eligibility for Dean's Honors for the quarter in which such grades are assigned.

Honors at Graduation

Students with outstanding academic achievement are honored at the time of graduation. College Honors are awarded to those Letters and Science undergraduates who have completed 135 or more graded units in the University of California with a grade-point average of at least 3.85. General honors at graduation are awarded to the top 20 percent of students who complete at least 76 graded units in the University of California, as follows: The top 2.5 percent receive Highest Honors; the next 6 percent receive High Honors; and the next 11.5 percent receive Honors. Members of departmental honors programs who complete their project or thesis with distinction are eligible for nomination by their departments for the award of Distinction in the Major.

Provost's Honors Council

The Provost's Honors Council is a group of approximately 30 undergraduates, primarily juniors and seniors, with records of scholastic excellence. The council is selected from nominations submitted by department chairs and by the college office. The council provides a forum for the exchange of information and ideas on academic matters. Council members may continue to serve until the time of their graduation.

Phi Beta Kappa

Phi Beta Kappa, established in 1776, is the nation's oldest and most prestigious scholastic honorary society, its purpose being to honor high achievement in the liberal arts and sciences. According to the society's handbook, the objectives of humane learning encouraged by Phi Beta Kappa include intellectual honesty and tolerance, range of intellectual interests, and understanding — not merely knowledge. The UCSB chapter, California Lambda, was established in 1967 and has since then elected almost 1,500 members. Election is by invitation only.

To be eligible for consideration, a student must have a grade-point average of at least 3.75 for juniors and 3.4 for seniors, have completed three quarters of a single foreign language, and have taken plane geometry and algebra through quadratics. Each senior candidate must have completed 60 units of work at UCSB (junior candidates must have completed 120 units), excluding professional, vocational, technical, recreational, and remedial courses and all courses taken on the P/NP basis. A record which shows more than 15 P/NP units is normally disqualified, although exceptions are made for candidates in the College of Creative Studies and occasionally for others of extraordinary achievement. Election to Phi Beta Kappa takes place in the spring quarter, and normally requires that the candidate have demonstrated evidence of genuine intellectual curiosity and achievement beyond the minimum outlined above. Most departments at UCSB have members of Phi Beta Kappa on their faculty. Students are urged to contact faculty members or the chapter secretary, Professor Alva Bennett in the Department of Classics, for further information.

Academic Programs and Options

Options for Accelerated and Independent Study

Qualified students may accelerate their progress through portions of the undergraduate curriculum by presenting excellent scores on the College Board Advanced Placement Examinations, by performing well in various departmental placement examinations in fields such as foreign languages, fine arts, and mathematics, and by earning credit for university courses by examination. These options are described in the "Undergraduate Education at UCSB" chapter of this catalog.

Qualified students may enroll in advanced, upper-division courses even as first-term freshmen, provided they have fulfilled the course prerequisites or have obtained the instructor's permission. Upper-division students with excellent academic records may enroll in special studies courses 198 and 199. Exceptionally qualified seniors are sometimes encouraged to enroll in graduate courses.

Advanced Placement Credit

Students who complete special advanced placement courses in high school and who earn scores of 3, 4, or 5 on the College Board Advanced Placement Examination taken before high school graduation will receive 2, 4, or 8 units of credit toward graduation at UCSB for each such test completed with the required scores, provided scores are reported to the Office of Admissions. The specific unit values assigned to each test, and the applicability of this credit to the General Education requirements, are presented in the accompanying chart. *Note: Advanced Placement credit earned prior to entering the university will not be counted toward maximum unit limitations either for selection of a major or for graduation.*

Undergraduate Research and Creative Activities

The College of Letters and Science encourages undergraduate students to pursue independent research and creative activities under the guidance of faculty members. More than 70 awards, some of which are listed below, are given annually to support undergraduate efforts. The College of Letters and Science's Special Programs Office advises students who wish to apply for undergraduate research awards.

The President's Undergraduate Fellowship assists talented undergraduates who pursue research and creative projects under faculty supervision. Students working on senior honors projects will be given first consideration. A cumulative UC grade-point average of 3.0 or above is required.

Fifteen May Company Scholarships for Research and Creative Projects are awarded to students with a grade-point average of 3.5 and above. Applicants must be planning or working on a research or creative project under faculty supervision. Students undertaking senior or honors theses will be given special consideration.

The Office of the President of the University of California funds Genesis Research Grants to support the scholarly work of under-represented students and to encourage them to pursue academic careers. Participants must demonstrate a strong desire to pursue graduate studies as evidenced by grade-point average and other scholarly work. First consideration will be given to the following groups of underrepresented undergraduates in the College of Letters and Science: American Indians, African Americans, Chicanos/Latinos, Filipinos, Pacific Islanders, and all Asian females. Applications from Asian American males in the arts, humanities, and social sciences, and from non-minority women in the physical sciences, mathematics, and computer sciences will also be considered.

The Howard Hughes Medical Institute Undergraduate Research Program supports 20 students annually in a comprehensive research experience preparing them for graduate studies in the biomedical sciences. Awards begin during the summer following the student's junior year and continue throughout the senior year. Applicants must be working with a faculty member in biomedical sciences, including biology, microbiology, pharmacology, physiology and cell biology, biochemistry and molecular biology, bio-psychology, chemistry, chemical engineering, and zoology.

The Faculty Research Assistance Program allows students to gain valuable experience in research methodology while earning academic credit. To participate, students complete a research assistance contract with faculty or senior researchers and enroll in a 199RA course.

Accelerated Study Access Program

The Accelerated Study Access Program (ASAP) in the College of Letters and Science allows highly qualified students from junior and senior high schools in the Santa Barbara area to enroll simultaneously in their home schools and at UCSB. ASAP participants are admitted to the University of California in freshman standing, and they have access to nearly the entire range of academic resources of the campus. They may enroll in any UCSB course for which they are qualified, and they will receive full university credit for each course satisfactorily completed. When they have graduated from high school, ASAP members may continue their education at UCSB, or they may be eligible for admission to another campus of the University of California or to any other institution of higher education for which they are qualified. Brochures describing the program, eligibility requirements, and application procedures are available from the college office.

The Letters and Science Program

Freshman and sophomore students who have not yet selected a major will be part of the Letters and Science Program. While they are in this program, they are encouraged to take courses in a variety of departments to help them to develop their interests and to learn about the range of academic opportunities available at UCSB. The College of Letters and Science, and many individual academic departments, offer special advising services to undeclared students to help them make sound academic decisions. All students are expected to select a major by the time they have completed 84 quarter-units. Students who have not declared a major by the time they have completed 84 units may have their continued registration blocked.

Individual Major

Highly motivated students with excellent academic records who find that no single major accommodates their specific interest in a given subject may propose an individual major, provided that sufficient courses exist in the college to support such study. Proposals for individual majors are prepared with the guidance of a faculty member, and they are examined for cogency and academic merit by the provost and the Executive Committee of the college, which has final approval authority.

Minimum qualifications for proposing an individual major include a grade-point average of at least 3.0 and residence in the college for at least three quarters. Final proposals for individual majors must be submitted not later than the end of the junior year. However, students are urged to discuss their ideas with a college adviser well before then, to allow sufficient time for preparation, review, and approval of the proposal. Normally, this process takes at least three months. Information sheets describing the individual major option are available in the college office.

Double Majors

Students with interest and talent in two separate major fields have the option of proposing a double major. If the proposal is approved by the department chairs involved and by the provost of the college, the student becomes responsible for completing all requirements for each major, normally by the time 200 units have been taken. No more than 8 units may be applied simultaneously to the upper-division requirements of the two majors.

Academic Policies and Procedures

Change of Major

Upon completion of any prerequisites for admission to the major, students may petition to change their major. The petition should be filed not later than the end of the junior year, and requires the approval of the chair of the prospective department and the provost of the college. Normally students should be able to fulfill all degree requirements, including those for the new major, by the time they have completed 200 units.

Unit Requirements

In order to be eligible for graduation, students must complete at least the following: 180 total units (184 if General Education Area B is met by completing Language 3 at UCSB or its equivalent at another college or university); 162 units selected from courses on the Letters and Science List of Courses (166 if General Education Area B is met by completing Language 3 at UCSB or its equivalent at another college or university); 60 upper-division units selected from courses on the Letters and Science List of Courses.

Students must earn a specified number of these units while in residence at UCSB. See the section titled "University Bachelor's Degree Requirements" for details. There is no limit on the number of courses that may be taken passed/not passed during a single quarter. Nevertheless, at the time of graduation, students must have earned at least two-thirds of their units at UCSB on a letter-grade basis.

Certain courses designated by the college as remedial are offered for work-load credit only, and do not figure in the calculation of the total number of units needed for a degree.

Letters and Science List of Courses

At least 166 units from the Letters and Science List of Courses (162 if General Education Area B is completed before enrolling at UC Santa Barbara) are required. Linguistics 7 and 8, certain military science courses, and all physical activities courses are *not* included on the Letters and Science List of Courses. All remaining courses in the College of Letters and Science are on the Letters and Science List. In addition, the following courses outside the college and the following approved military science courses are also on the Letters and Science List:

- Chemical Engineering 10, 110A-B, 120A-B-C, 128, 130A-B-C-D, 140A-B, 160, 180A-B, 182
- Computer Science (all courses)
- Creative Studies courses
- Education 109S, 114, 125, 165, 165L
- Electrical and Computer Engineering 15, 113, 130A-B-C, 150, 152A-B-C, 154, 158, 170
- Engineering 3, 101, 103
- Mechanical and Environmental Engineering 118, 119, 140A, 152A-B, 157A-B
- Military Science 1A-B-C, 7, 8, 9, 11, 12, 25, 142, 143
- Nuclear Engineering 10, 111, 121, 122

Courses that do not appear on the Letters and Science List will apply to the total units required for graduation but will not apply to the 60 upper-division or the overall Letters and Science unit requirements described above.

If a non-Letters and Science course is either required for or accepted into the major, it will be counted as if it were a Letters and Science course at the time of the student's graduation, and thus will apply to the appropriate Letters and Science unit requirements.

Upper-Division Courses

Sixty upper-division Letters and Science units are required. UCSB courses on the Letters and Science List are considered upper-division if they are numbered 100-199. All courses in the College of Creative Studies, except Physics CS1-6A and 15A-B-C and those courses entitled General Studies, are considered upper-division Letters and Science courses.

Transfer students from community colleges should take particular note of the upper-division unit requirement. Students transferring from other colleges or schools in which they have earned credit for a substantial number of courses considered non-Letters and Science, such as agriculture or journalism, should review the Letters and Science unit requirements and plan their programs at UCSB accordingly.

Community College Credit Limit

After completion of 105 or more cumulative quarter-units, or 70 semester-units, in the university and all other colleges combined, no additional unit credit will be accepted for any courses completed subsequently at a community (two-year) college. Courses completed thereafter at community colleges may apply to specific subject requirements as appropriate, but not to unit requirements. Exceptions may be granted to this rule, by petition, but in no case will more than 105 community college units be accepted.

Concurrent enrollment. Students who wish to enroll simultaneously in undergraduate courses at UCSB and at another college-level institution must obtain prior approval from the provost or dean of their college. Normally, such enrollment is approved only for courses that are not available in the curriculum at UCSB.

Physical Activities Credit Limit

No more than 6 units of one-half-unit physical activities courses, or equivalent transfer courses, will be accepted toward the 180 (or 184) total units required for graduation.

Minimum Academic Progress

The recommended study load for a full-time undergraduate student in the College of Letters and Science is 12 to 16 units per quarter. An average load of 15 units must be maintained if the student expects to complete degree requirements in four years.

It is the policy of the College of Letters and Science to monitor the academic progress of students and to apply the following restrictions if progress is not maintained. Undergraduate students who do not pass at least 36 units during any three consecutive terms may be placed on probation and may have strict study list controls placed on their quarterly programs until it is determined that satisfactory academic progress has been made. Further, students who do not pass at least 32 units during three consecutive terms may also be subject to strict study list controls and may, at the discretion of the provost, be in jeopardy of having their registration cancelled.

All study lists of fewer than 12 units must be approved by the Office of the Provost. Students who, for reasons of poor health, or regular outside employment, or personal and/or family responsibilities, are unable to maintain the 12-unit quarterly minimum may request an exception by submitting the appropriate petition to the college office.

200-Unit Enrollment Limit

Students are normally expected to complete all of their degree requirements by the time they have undertaken 200 total units. Units earned through College Board Advanced Placement examinations will not be calculated in this 200-unit minimum. If enrollment beyond this limit is necessary or desirable, students may often obtain approval by submitting a Proposed Schedule for Graduation to the provost of the college, giving their reasons for continued enrollment and outlining their proposed programs.

Preparing for Careers and Graduate and Professional Schools

While enrolled in the College of Letters and Science, students have access to career planning advice, and they can prepare for admission to a variety of graduate and professional programs offered by the University of California and other colleges and universities. To assist them in the process, the college provides pre-professional advising in a number of fields. Students are invited to discuss their plans with the college pre-professional adviser and to use the resources of the college office and of Counseling and Career Services, Building 599. A microfiche collection of two-year, four-year, graduate, and professional-school catalogs is located in the college office.

Career Planning

Counseling and Career Services, Building 599, is of particular assistance to students who are searching for a rewarding career. The center offers individual counseling, workshops, a computerized System of Interactive Guidance (SIGI), and a self-directed career search system (Voyages) using video cassettes to help students match personal characteristics with possible careers. The Career Resource Room in Counseling and Career Services has career literature available for review. The Placement Center also has information on current employment opportunities in a variety of fields. Several full-time advisers assist students individually and offer workshops in such areas as resume writing and interviewing skills. Among useful, career-related publications in the UCSB Library are the College Placement Annual, which includes the addresses of many corporate and governmental agencies that recruit graduates, and the Bluebook of Occupational Education, which describes the background required for certain careers and lists schools that offer programs in preparation for specific vocations.

Graduate Programs

Departments and major committees at UCSB have specially appointed faculty members who are prepared to discuss their own graduate programs, specializations available, and admission requirements, including courses and majors required. They are often able to provide general information about other graduate schools in their areas of specialization.

All college advisers have a general knowledge of graduate school matters and can assist students in reviewing the options available to them. Two publications are very helpful to students searching for appropriate graduate programs: *Graduate School Admissions Manual*, a four-volume set published by the Educational Testing Service which identifies all graduate schools in the U.S. offering programs in each specific field of study, and *Petersen's Guides*, which are helpful in deciding which school is most suitable. The *Manual* is available in the college office. Both the *Manual* and *Petersen's Guides* are available in the Graduate Division office.

Professional Programs

Most graduate professional programs do not require completion of a specific undergraduate major. Instead, students may complete the major of their choice while completing any specific course prerequisites required for admission to the programs of interest to them, as summarized below.

Health Fields

Students who are preparing for careers in medicine, dentistry, nursing, pharmacy, physical therapy, medical technology, veterinary medicine, and other health sciences find that UCSB is an excellent place to complete their undergraduate preparation. The academic adviser in the Department of Biological Sciences and the college pre-professional adviser assist them in planning their programs and in preparing for the rigorous medical and dental school application process. UCSB's Campus Learning Assistance Services (CLAS) provides free preparation sessions for the standardized examinations required for admission to medical and dental schools. UCSB graduates are accepted into U.S. medical schools at a rate 30 to 50 percent higher than the national average.

Though many students select majors within the biological sciences, medical schools, dental schools, and schools in the other health sciences do not require or expect applicants to complete a specific major. Many schools, in fact, encourage applicants to gain broader preparation by choosing majors from among the social sciences and humanities. Each school, however, does require certain prerequisite courses, which invariably include Chemistry 1A-B-C and laboratories (General Chemistry); Chemistry 6A-B and either 130A-B-C or 8A-B-C (Organic Chemistry and laboratories); Biology 4A-B-C, formerly 1, 2, 3 (Introductory Biology); Physics 6A-AL-B-BL-C-CL, or 1-2-3-3L-4-4L (General Physics with laboratories); Mathematics 3A-B-C (Calculus), or Mathematics 34A-B (Calculus); and Probability and Statistics 5A; and English 2, 3 (First-Year Reading and Composition). The following courses are often recommended: Biology 108A-B-C (General Biochemistry); Biology 130A-B (General Genetics); and Zoology 100 (Developmental Biology). Some schools of dentistry require a course in psychology.

The overall grade-point average, particularly the grades earned in the prerequisites described earlier, will be a primary factor in determining the student's prospects for admission. Generally, at least a 3.3 grade-point average in the sciences and in all college work will be needed. Scores on the standardized examinations will also be an important factor. Because competition is intense, interested students are encouraged to consult the pre-health sciences adviser early in their academic careers, in order to plan their programs carefully. The *Letters and Science Guide to Undergraduate Studies* presents information and advice for students interested in veterinary medicine, medical technology, nursing, physical therapy, medicine, and dentistry.

Counseling and Human Services

Students planning careers in one of the helping professions such as counseling psychology, marriage and family counseling, educational psychology, social work, and industrial psychology may complete their undergraduate education at UCSB. No specific undergraduate major is required for most programs, but substantial coursework in the behavioral and social sciences is strongly recommended, and a course in statistics is often required. Some programs require applicants to take the Graduate Record Examination. Graduate professional programs in the counseling and human services area normally require one to two years of study.

Previous experience (volunteer or paid) in a human services setting is a requirement for most professional degree programs. Applicants to such programs are often asked to provide letters of recommendation from their supervisors. Additional information can be obtained from the Departments of Sociology and Psychology, from the Graduate School of Education, and from the pre-professional adviser in the College of Letters and Science.

Law

Students preparing for law school can select virtually any major of interest to them. Law schools seek applicants with a broad academic background who have demonstrated superior analytic and communication skills. Academic performance and scores achieved on the Law School Admissions Test (LSAT) are important criteria in the selection process. The college pre-professional adviser assists students in reviewing prospective law schools and the law school admissions process, and offers suggestions related to major selection and program planning. The UCSB Association of Pre-Law Students provides information and mutual support; it organizes law school tours for its members and hosts the visits of law school representatives. For further information, students are encouraged to review the *Official Guide to U.S. Law Schools* and to seek advice from the pre-law adviser in the College of Letters and Science.

Management

Students from a variety of academic backgrounds are admitted to graduate schools of business administration and management. Areas of emphasis within the general field of management include international business, personnel management, hospital administration, arts management, banking and finance, marketing, operations research, accounting, labor and industrial relations, transportation and public utilities, and insurance.

Many schools have specific course prerequisites. These often include courses in accounting, micro-and macro-economics, statistics, and mathematics. Students are advised to review the admission requirements of the programs of interest to them so that they can plan their undergraduate programs accordingly.

Most graduate schools of business require applicants to submit scores earned on the Graduate Management Admissions Test (GMAT). The UCSB Campus Learning Assistance Services (CLAS) offers preparation sessions for this examination. In addition, graduate schools of business generally seek applicants who have supplemented their academic pursuits with activities that have enabled them to develop and exercise their leadership potential and organizational skills. Many such activities are available at UCSB, including participation in student organizations and government and in one of the various internship programs sponsored by an academic department or by the UCSB Applied Learning Program. Full-time work experience is becoming increasingly important for admission to many schools of business; some of the most prestigious programs have initiated a process of deferred admission to ensure that students have the necessary work experience before they undertake graduate study. Interested students are invited to consult the college pre-professional adviser and the advisers in the Department of Economics. The *Official Guide to MBA Programs, Admissions, and Careers,* available in many university and commercial bookstores, contains descriptions of more than 400 M.B.A. programs.

Teaching and Related Fields

The two first-level teaching credentials available in California are the Multiple Subject (elementary) and the Single Subject (secondary) credentials. Both require the prior completion of a bachelor's degree plus one academic year of graduate professional teacher education coursework and student teaching. The Graduate School of Education at UCSB offers these and several additional credential and graduate education programs.

Certain specific prerequisite courses are required for admission to these credential programs. A full description of prerequisites, and of the programs and options offered at UCSB, is contained in the *Letters and Science Guide to Undergraduate Studies*. Pre-credential students are encouraged to discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Special Education

In order to qualify for a Special Education Specialist credential in California, applicants must have a valid basic teaching credential and must complete a specialized graduate program or professional preparation. UCSB offers accredited Special Education Learning Handicapped and Severely Handicapped Specialist Credential Programs. Four additional areas of advanced specialization are available at other schools and colleges in California: communication handicapped; physically handicapped; visually handicapped; and gifted. These programs normally require one year of graduate study and may require specific undergraduate preparation. Details are available from the Graduate School of Education, Special Education Office, 2330 Phelps Hall.

Anthropology

Department of Anthropology, Division of Social Sciences, North Hall 2051;
Telephone (805) 893-2257
Department Chair: Mattison Mines

Faculty

Mark S. Aldenderfer, Ph.D., Pennsylvania State University, Associate Professor *(hunter-gatherers, Andean archaic, lithic analysis, quantitative methods)*

David W. Brokensha, D. Phil., Oxford University, Professor Emeritus

Donald E. Brown, Ph.D., Cornell University, Professor *(sociocultural anthropology, political anthropology, anthropology of history, Southeast Asia)*

Manuel L. Carlos, Ph.D., UC Santa Barbara, Professor *(political anthropology, Latin America)*

Napoleon Chagnon, Ph.D., University of Michigan, Professor *(social behavior, evolutionary theory, social structure, South American Indians)*

Charles J. Erasmus, Ph.D., UC Berkeley, Professor Emeritus

Brian M. Fagan, Ph.D., Cambridge University, Professor *(Old World archaeology, general prehistory, multi-media teaching)*

Michael A. Glassow, Ph.D., UC Los Angeles, Professor *(archaeology, cultural ecology, western North America)*

Thomas G. Harding, Ph.D., University of Michigan, Professor *(economic anthropology, the Pacific)*

Elvin Hatch, Ph.D., UC Los Angeles, Professor *(history of anthropology, social history of rural America and New Zealand)*

Michael Jochim, Ph.D., University of Michigan, Professor *(archaeology, hunters-gatherers, European prehistory, archaeological method and theory)*

William Madsen, Ph.D., UC Berkeley, Professor Emeritus

Mattison Mines, Ph.D., Cornell University, Professor *(social anthropology, South Asia, South Asian Muslims)*

Juan Vicente Palerm, Ph.D., Universidad Iberoamericana, Associate Professor *(peasant studies, development)*

Alexander F. Robertson, Ph.D., University of Edinburgh, Professor *(social change and development, economic and political processes, Africa, Europe)*

Katharina Schreiber, Ph.D., State University of New York, Binghamton, Associate Professor *(archaeology of Andean South America and the southwestern United States, origin and development of complex societies, empire expansion)*

Elman R. Service, Ph.D., Columbia University, Professor Emeritus

Susan Stonich, Ph.D., University of Kentucky, Assistant Professor *(ecological anthropology, developmental anthropology, political economy, Latin America)*

Donald Symons, Ph.D., UC Berkeley, Professor *(physical anthropology, primate social behavior, the evolution of human behavior)*

John Tooby, Ph.D., Harvard University, Assistant Professor *(evolutionary psychology, hominid behavioral evolution, behavioral ecology, evolutionary genetics)*

Barbara Voorhies, Ph.D., Yale University, Professor *(archaeology, cultural ecology, Mesoamerica)*

Phillip L. Walker, Ph.D., University of Chicago, Professor *(physical anthropology, osteology, primatology, human evolution)*

Mayfair Yang, Ph.D., UC Berkeley, Assistant Professor *(sociocultural anthropology, interpretive and social theory, political economy, China)*

Affiliated Faculty

Charles Li, Ph.D. (Linguistics)

Anthropology is the study of humans in the broadest sense: biological, sociocultural, and historical. Most undergraduates in anthropology at UCSB select this major because of the opportunity it affords them to acquire a sound liberal education, even if they do not intend to become anthropologists. However, the professionally oriented student will also find the curriculum fully suitable.

The aim of the anthropology major is threefold: (1) to prepare for graduate school those students who wish to work professionally in anthropology; (2) to prepare students for careers in secondary education or in social work; and (3) to provide a background in behavioral studies for students who desire a broad education in either the biological or the social sciences.

The Department of Anthropology's undergraduate secretary is available for advising on matters such as courses, requirements, substitutions, and petitions. The department also has advisers in cultural and social anthropology, physical anthropology, archaeology, and the Education Abroad Program. Graduate students in need of advising should contact the graduate program assistant. Brochures regarding the M.A. and Ph.D. programs in anthropology are published annually.

After completing specific prerequisites, students with a bachelor's degree in anthropology are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—Anthropology, Cultural Emphasis

Preparation for the major. Anthropology 2, 3, and 5.

Upper-division major. Forty units of upper-division anthropology courses, 8 of which may be in related courses in other departments. Consult the department regarding acceptable courses in other disciplines and for limitations on double majors. Students are required to take a minimum of seven upper-division courses (28 units) distributed as indicated among the five groups listed below. Students will need to select an additional 12 units of anthropology of which up to 8 units may be in related fields.

I. Theory and Method
(one required from A or B)

A. Ethnology

106. History of Anthropological Theory
109. Human Universals
111A-B-C. Methods of Ethnographic Data Analysis
113. Anthropological Linguistics
128. Contemporary Anthropological Theory
129. Culture and the Individual
147. Understanding Cultural Differences
154. Special Topics in Social Anthropology
169. Field Research in Mexican Society
179. Seminar on the Anthropology of Symbolism

B. Archaeology

*100. Basic Archaeological Concepts
112Z. Theoretical Approaches in Contemporary Archaeology
172H. Advanced Studies in Lithic Analysis
163N. Analysis of Archaeological Materials
174. Spatial Analysis in Archaeology
*181. Methods and Techniques of Field Archaeology
*182. Methods of Archaeological Analysis
182M. Introduction to Lithic Analysis
184. Settlement Pattern Analysis in Archaeology
*191. Laboratory Techniques in Archaeology
194. Field Training in Mesoamerican Archaeology
194P. Practicum in Field and Laboratory Analysis

* These courses are strongly recommended for majors with an archaeology concentration.

II. Topics in Ethnology and Archaeology
(two required from A and/or B)

A. Ethnology

107. Psychological Anthropology
108. Traditional Political Systems
114. Social Organization
115. Law and Warfare in Nonwestern Societies
116. Magic, Religion, and Witchcraft
117. Knowledge and Perception
118. Ethnology of Inequality
120. Production and Reproduction
123. The Anthropology of History
125. Anthropology of Gender
127. Hunters and Gatherers
138A. Elements of Traditional Chinese Culture
138B. Socialist Chinese Society
148A. Comparative Ethnicity
159. Urban Anthropology
166. Anthropological Approaches to Addiction
171. Economic Life of Primitive and Peasant Societies
176. Seminar in Contemporary Ethnology

B. Archaeology

101. African Archaeology
133. Cultural Development in Mesoamerica
143F. Ethics in Archaeology
185. Great Discoveries in Archaeology
187. The Clash of Cultures
187A. The Impact of Columbus
188. The Seacoast in Prehistory

III. Development, Ecology, and Social Change
(one required from A or B)

A. Ethnology

104H. People, Poverty, and Environment in Central America
110. Technology and Culture
119. Reform and Revolution
122. Anthropology of World Systems
124A-B. Human Exploitation of Plants and Animals
130A-B. Third World: Environments and Prospects
139. Applied Anthropology
141. Agriculture and Society in Mexico: Past and Present
146. Development Anthropology
160. Cultural Ecology
172. Colonialism: Social Effects
190. Seminar on Political Anthropology of Latin America

B. Archaeology

162. Prehistoric Food Production
164. The Origins of Complex Societies
167. People of the Ice Age

IV. Ethnography and Culture History
(two required from A and/or B)

A. Ethnology

102. Peoples and Cultures of the World
131. North American Indians
134. Modern Cultures of Latin America
135. Modern Mexican Culture
136. Peoples and Cultures of the Pacific
142. Peoples and Cultures of India
144. Peoples and Cultures of Southeast Asia
156. Understanding Africa
168. Seminar on the Problems of Mexican Ethnology

B. Archaeology

130. Archaeology of South America
137. The Ancient Maya
150. Archaeology of the Inca Empire
155. Prehistory of California and the Great Basin
163. Archaeology of North America
175. Southwestern Archaeology
189. Problems in European Prehistory
193. Problems in Mesoamerican Prehistory

V. Physical Anthropology
(one required)

105. Human Variation
121. Human Evolution
121T. Genetics, Natural Selection, and Human Evolution
151. Fossil Evidence for Human Evolution
151T. Evolutionary Psychology
153. Primate Behavior
153T. Primate Behavioral Ecology
180A-B. Faunal Analysis

Bachelor of Arts—Anthropology, Physical Emphasis

Preparation for the major. Anthropology 2, 3, 5, 105; Zoology 25 and 25L. Recommended: Zoology 40, 40L, and Biology 1, 2, 3 (formerly 11A-B-C).

Upper-division major. Forty units of upper-division anthropology, excluding Anthropology 105, at least 12 of which are in physical anthropology courses (Anthropology 121, 121T, 151, 151T, 153, 153T, 180A-B). Twelve units of related upper-division courses in biological sciences and linguistics are permitted for credit in the physical anthropology major. See department regarding acceptable courses in biology and linguistics and for limitations on double majors.

Senior Honors Program

The senior honors program is designed to facilitate independent research on topics chosen by the student and pursued in particular depth. Qualified majors will be invited to participate in the honors program. Minimum qualifications are junior standing (completion of at least 105 units), completion of at least 20 upper-division units in anthropology, a grade-point average of at least 3.4, and two signatures of recom-mendation from instructors with whom the student has worked.

Students may enter the program any quarter. Each candidate for honors enrolls in Anthropology 195A-B, taken in consecutive quarters, under the instruction of a thesis adviser chosen by the student. In Anthropology 195A, the student will concentrate on reading and gathering material for the thesis; in 195B, the student will write the thesis. The senior honors thesis will be retained permanently in the de-partment office for faculty and students to read.

Anthropology students who complete the honors program, who maintain grades of B or better in Anthropology 195A-B, and who graduate with a minimum 3.4 grade-point average in the major will be awarded Distinction in the Major on university records and on the diploma.

College of Letters and Science Honors Program

Students enrolled in the College of Letters and Science Honors Program will be eligible to enroll in special honors discussion sections in most lower-division anthropology courses. See the department undergraduate secretary for more information.

Graduate Program

There are three specializations in the M.A. and Ph.D. programs: archaeology, ethnology, and biological anthropology; additional specializations are possible within each of these fields. A complete statement of degree requirements and policies is available from the department. In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Anthropology

Admission

Applicants for admission to the graduate program in anthropology must fulfill general requirements for admission to graduate status, and must have pursued an undergraduate major in anthropology or its equivalent. Very few students are admitted into the graduate program to work only toward the M.A. degree; most are admitted with the understanding that they will continue to the Ph.D. when they have received the M.A., provided their M.A. work indicates an ability to conduct research at the Ph.D. level. Those who wish to pursue the Ph.D. must indicate their intent when first applying. Applicants will be admitted in fall quarter only; the application deadline for students seeking merit-based financial support is January 15; other applications will be accepted until March 1.

Degree Requirements—Ethnology Specialization

For the first year, ethnology students devote themselves chiefly to graduate seminars, although some undergraduate courses may be taken to make up deficiencies in specific areas. By early winter quarter, each student selects an advisory committee of three faculty who will assist the student in drawing up his or her M.A. contract. The contract is specially tailored to each student's needs and includes courses and language training. It should be drawn up during winter quarter, but in no case later than the end of spring quarter. At the end of the second year, the student takes a comprehensive exam, covering both the general field of cultural and social anthropology and the student's topics of specialization.

The M.A. degree will be awarded upon passing the comprehensive exam and upon completion of department and university required course units.

Degree Requirements—Archaeology Specialization

The Department of Anthropology offers two M.A. programs in archaeology: one that is the initial segment of the Ph.D. program, for students intending to pursue the Ph.D. degree once the M.A. degree has been conferred, and the other, known as the terminal M.A. program, for students whose career goals require only an M.A. degree. The Ph.D. program includes specializations in North American, Mesoamerican, South American, and European archaeology, while the terminal M.A. program includes specialization only in North American archaeology. The North American archaeology specialization in both programs may include subspecialization in human osteology and faunal analysis through a link with the department's biological anthropology specialization.

A series of core courses must be taken during the first two years. The normal course load is three courses per quarter. Elective courses, as well as other aspects of the course of study, are supervised by the student's assigned adviser. During the first year, the student formulates a contract specifying the course of study for the remainder of graduate work.

During the second year, the student begins working on an article-length research paper after selecting a topic in consultation with the adviser. In the spring quarter of the second year, the student takes a comprehensive exam in general anthropology and method and theory in archaeology. The student then forms a provisional Ph.D. committee.

In the fall quarter of the third year, the research paper is due. After satisfactory completion of coursework, research paper, and comprehensive exam, the M.A. degree may be awarded.

Although students in the terminal M.A. program also take the series of core courses during the first two years of study, other courses are also required. In addition, the comprehensive exam is taken during the spring quarter of the second year. The student in this program forms a thesis committee at the end of the first year of study, and in consultation with the committee formulates a thesis topic during the second year of study. In place of the research paper, the student prepares a thesis based on original research in North American archaeology that must be completed and accepted no later than the end of the third year after entering the program. If after obtaining an M.A. degree in this program a student wishes to enter the Ph.D. program, he or she must apply as if the M.A. degree was obtained at another institution.

Degree Requirements—Biological Anthropology Specialization

Students are required to take reading proseminars to orient them and to prepare them for the comprehensive examination to be given in the spring quarter of the second year. In addition, students are expected to take relevant additional courses in anthropology and other departments—such as biology, psychology, and geology—to strengthen their anthropological background and to prepare them for their areas of specialization. The normal course load is three courses per quarter, unless students are teaching, in which case the normal course load is two courses per quarter. For the first year, the course of study is supervised by the student's assigned adviser. By the end of the spring quarter of the first year, each student selects an advisory committee of three faculty (which may include faculty from other departments) who will assist the student in drawing up his or her contract. The contract is specially tailored to each student's research goals and interests, and includes courses, a second year research project, and a preliminary identification of areas of specialization. During the second year, the student begins working on an article-length research paper after selecting a topic in consultation with the advisory committee. In the spring quarter of the second year, the student takes a comprehensive examination covering the general field of anthropology, biological anthropology, and the student's chosen areas of specialization. After satisfactory completion of coursework, the research paper, and the comprehensive exam, the M.A. degree may be awarded.

Doctor of Philosophy—Anthropology

Admission

After obtaining the M.A. degree, the student may be invited to continue toward the Ph.D. degree. At this time each student invites three faculty members to serve on the Ph.D. committee.

Degree Requirements—Ethnology Specialization

Doctoral students, in consultation with their committee members, write a research paper due no later than their third year, and design a research proposal for the Ph.D. dissertation. A contract must also be approved by their committee if this has not been done at the M.A. level. The research paper reviews and analyzes the literature dealing with the student's main topics of specialization. The proposal is normally submitted to a funding agency such as the National Science Foundation. Usually about a year will elapse between the M.A. and the receipt of funds if the research grant is awarded; most of this time is spent in independent study. Upon approval of the completed research paper, the research proposal, an oral examination, and the contract, the student can be advanced to candidacy.

Field work of at least three quarters' duration is required before the Ph.D. can be granted. The dissertation is normally based on field research. Students must demonstrate the methodological and other skills required by the research specialty, such as knowledge of a foreign language, linguistics, statistics, historiography, laboratory techniques, and the like.

Degree Requirements—Archaeology Specialization

Students who have satisfactorily completed all requirements of the M.A. degree in the department's doctoral program, or who have an M.A. degree from another institution, may be invited to work toward the Ph.D. degree. Students with an M.A. degree from another institution normally must take certain core courses, take the comprehensive exams during the spring quarter of the first year, and prepare a research paper before beginning work on a dissertation.

If a student began graduate work at UCSB, he or she selects a dissertation topic in consultation with the provisional Ph.D. committee and submits a proposal by the end of the third year of study. Students entering with an M.A. degree from another institution normally prepare a proposal during their second year at UCSB. The student advances to candidacy after passing an oral examination and after the dissertation proposal is accepted. At this time the student selects a formal Ph.D. committee. Ph.D. candidates must spend at least three quarters in dissertation research. Submission and approval of the dissertation qualifies the student for the Ph.D. degree.

Degree Requirements—Biological Anthropology Specialization

Students who have satisfactorily completed all requirements of the M.A. degree in the department's doctoral program may be invited to work toward the Ph.D. degree. Upon admission to the Ph.D. program, the student forms a Ph.D. committee. Students with an M.A. degree from another institution normally must take the proseminars, form a contract, pass the comprehensive exams during the spring quarter of the first year, and prepare a research paper before beginning work on a dissertation, but these requirements may be waived depending on the research background of the student. If a student began graduate work at UCSB, he or she selects a dissertation topic in consultation with the Ph.D. committee and submits a proposal by the end of the third year of study. Students entering with an M.A. degree from another institution normally prepare a proposal during their second year at UCSB. Acceptance of the dissertation proposal and satisfactory completion of an oral examination permits the student to advance to candidacy. Submission and approval of the dissertation qualifies the student for the Ph.D. degree.

Anthropology Courses

LOWER DIVISION

Note: Freshman seminars are offered on an irregular basis.

2. Introductory Cultural Anthropology
(4) STAFF

The nature of culture: survey of the range of cultural phenomena, including material culture, social organization, religion, and other topics.

3. Introduction to Archaeology
(5) FAGAN

An introduction to archaeology and the prehistory of humankind from the earliest times up to the advent of literate civilization and cities, also processes of cultural change. Partly self-paced learning.

5. Introductory Physical Anthropology
(4) SYMONS

Human evolution: evolutionary theory, basic genetical concepts, primate evolution and behavior, fossil man, evolution of human behavior and mind.

7. Introductory Biosocial Anthropology
(4) TOOBY

Prerequisites: Anthropology 2 or 5 or consent of instructor.

An introduction to our evolved, universal human nature, the evolution of the human mind, and how they shape behavior, social life, and culture. Topics include friendship, mate choice, incest avoidance, cooperation, revenge, status, jealousy, emotions group formation and intergroup formation.

10. Faces of Culture: A Film Introduction to Cultural Anthropology
(4) CHAGNON

Twenty-six films which have been developed to introduce the student to the diversity of human ways of life will be shown and discussed in this class. The heavy emphasis on visual material is designed to make cross-cultural studies more readily accessible to the California student.

UPPER DIVISION

100. Basic Archaeological Concepts
(4) JOCHIM

Prerequisite: Anthropology 3.

A survey of important archaeological methods of excavation, analysis, and interpretation. Focus will be on the problems and promise of various approaches to the explanation of past human behavior.

101. African Archaeology
(4) FAGAN

Prerequisite: Anthropology 3.

An analysis of the archaeology of Africa from 10,000 years ago to AD 1500, with special reference to the emergence of food production, indigenous states, and the development of long distance trade. Major emphasis on self-paced learning.

102. Peoples and Cultures of the World
(4) STAFF

A survey of representative primitive and archaic cultures of the world in evolutionary perspective.

104H. The Anthropology of Contemporary Crises in Central America
(4) STONICH

Prerequisite: Anthropology 2. Same course as Environmental Studies 104.

Analysis of the interrelated social, economic, political, and environmental crises occurring in Central America from an anthropological perspective. Emphasis is on the evolution of contemporary problems, current conditions, and future prospects for the region.

105. Human Variation
(4) WALKER

Prerequisite: Anthropology 5, Biology 20, or equivalent.

An examination of traditional race concepts contrasted with an approach to human variation through the analysis of biologically adaptive traits.

106. History of Anthropological Theory
(4) HATCH

Prerequisite: Anthropology 2

An account of the intellectual traditions of anthropology, the main figures who shaped these traditions, and the issues that both divided and united anthropologists at different periods of time.

107. Psychological Anthropology
(4) STAFF

Human socialization, sexual behavior, aggression, mental illness, national character, and social pathology in cross-cultural perspective.

108. Political Anthropology
(4) BROWN

Prerequisite: Anthropology 2 or upper-division standing.

Historical survey of anthropological and earlier contributions to the cross-cultural study of government.

109. Human Universals
(4) BROWN

A critical overview of those characteristics of human psyche, behavior, society, and culture that are allegedly found among all peoples: the constants of human nature.

110. Technology and Culture
(4) HARDING

The role of tools and technical knowledge in the evolution of societies. The development and spread of major technological innovations from the Paleolithic to the Industrial Revolution. The impact of industrial technology on primitive and archaic cultures.

111A-B-C. Methods of Ethnographic Data Analysis I, II, III
(4-4-4) CARLOS

Prerequisite: consent of instructor.

Focuses on methods used in analysis of ethnographic data. Emphasis on quantitative and historical data, its use in theory construction, preparation of field reports, and writing papers. Students will develop research projects using data collected by instructor and/or student researchers.

112Z. Theoretical Approaches in Contemporary Archaeology
(4) ALDENDERFER

Prerequisites: Anthropology 3 or 100.

Students will be introduced to the major theoretical approaches in contemporary archaeology, including neo-evolutionist, Marxist, symbolic/structuralist, critical, and neo-Darwinian thinking. The goal of the course is to show how theory serves as a guide to research.

113. Anthropological Linguistics
(4) LI

Prerequisite: Linguistics 20 or upper-division standing. Same course as Linguistics 116.

This course introduces the structure of language, language universals, language typologies, language change, linguistic theories, and methodologies of linguistic research. It is designed for students of anthropology.

114. Social Organization
(4) MINES

Emphasis on various theories of social structure and social organization in cross-cultural perspective; kinship, social stratification, and ethnicity.

115. Law and Warfare in Nonwestern Societies
(4) CHAGNON

The nature of law and warfare in nonwestern societies. Analysis of the strategy and tactics of conflict resolution in relation to ecological, economic, and political aspects of life in nonwestern societies.

116. Magic, Religion, and Witchcraft
(4) MADSEN

Cultural parallels and variation in supernatural beliefs and practices. The origin and development of supernaturalism from primeval man through contemporary societies. The techniques of supernatural control and the relativity of "reality." Today's search for sanction and meaning.

117. Knowledge and Culture
(4) HARDING

Prerequisite: Anthropology 2 or equivalent. Recommended (one of the following): introductory philosophy, introductory linguistics, upper-division course in English or foreign language literature, upper-division course in intellectual history.

Theories of "primitive mentality" in classical and modern anthropology; primitive esoteric knowledge and cosmology; folk taxonomies and knowledge of nature; numeration in primitive and archaic cultures; transmission and accumulation of knowledge in the premodern era.

118. Ethnology of Inequality
(4) STAFF

Inequality in primitive, peasant, and developing societies and the rise of egalitarianism.

119. Reform and Revolution
(4) ROBERTSON

Prerequisite: Anthropology 2.

An anthropological approach to the study of social movements: their causes, organization, and consequences; their subjective ideas and intentions; and their relationships to the broader structures of state and society.

120. Production and Reproduction
(4) ROBERTSON

Prerequisite: Anthropology 2.

Exploration of the relationship between family processes and changing economic structure in tribal, peasant, and industrial societies. How the production of people depends on the reproduction of economic relationships, and how economic production is influenced by human reproduction.

121. Human Evolution
(4) WALKER

Prerequisite: Anthropology 5.

The nature and results of the evolutionary processes responsible for the formation and differentiation of human populations.

121T. Genetics and Human Evolution
(4) TOOBY

Prerequisite: Anthropology 5 or equivalent or consent of instructor.

An introduction to the nature and role of genes in evolution, in natural selection, in sexual reproduction, in cellular regulation, in human development, in structuring universal human adaptive design, and in creating individual and intergroup similarities and differences.

122. Anthropology of World Systems
(4) CARLOS

Focuses on the penetration and impact of global capitalist economy (national and multinational) upon local level third world societies, communities, and groups. A world system perspective is taken and anthropological case studies are presented from Asia, Africa, and Latin America.

123. The Anthropology of History
(4) BROWN

Introduction to ethnohistory (anthropologists' attempts to discover a people's past) and folk history (a people's own view of their past), with special emphasis on cross-cultural comparison of the conditions which determine the content and form of folk history.

124A-B. Human Exploitation of Animals
(4-4) WALKER

Prerequisite: upper-division standing or Anthropology 2, 3, or 5 is prerequisite to 124A. Anthropology 124A is prerequisite to 124B.

Emphasis of this course will be placed on the cultural factors influencing humans and animals with special emphasis on the way cultural factors influence human exploitation of animals.

A. A general introduction and overview.
B. A seminar for more specialized study of main themes.

125. Anthropology of Gender
(4) YANG

Prerequisite: Anthropology 2.

The cross-cultural study of gender from a feminist perspective. Topics may include gender and nature, gender and the division of labor, gender and kinship, gender and subjectivity, gender and sexuality, gender and the state, gender and knowledge/discourse.

127. Hunters and Gatherers
(4) JOCHIM

Prerequisite: Anthropology 2 or 3.

What do Pygmies, Aborigines, and Eskimos have in common? What is the relationship between nature and culture in these simple societies? These questions and other will be examined through case studies and cross-cultural comparisons.

128. Contemporary Theory in Cultural Anthropology
(4) YANG

Prerequisite: Anthropology 2.

A survey of theoretical approaches to cultural anthropology since the 1960s. The course explores the different ways of understanding culture and society since structural-functionalism, such as symbolic anthropology, Marxist anthropology, structuralism, gender theory, and experimental ethnography.

129. Culture and the Individual
(4) HATCH

This course discusses the leading views among anthropologists about the nature of the individual, the role of culture in shaping the human personality, and the role that the individual plays in culture or society.

130. Archaeology of South America
(4) SCHREIBER

Prerequisites: Anthropology 3 and 100.

A survey of the Andean region, tracing the rise of civilization from early hunter-gatherers to the impressive Inca Empire. Emphasis is placed on the archaeological basis for interpretations of such major cultures as Chavin, Nasca, Moche, Wari, and Tiwanaku.

130A-B. Third World: Environments and Prospects
(4-4) STONICH

Prerequisite: Anthropology 2 or consent of instructor. Same course as Environmental Studies 130 A-B.

The first quarter emphasizes the rural areas, the second the urban and industrialized sectors. Both parts use selected case studies to illustrate such problems as use of major resources (water, land, plants, animals) and new issues arising from increased population, urbanization, and development interventions.

131. North American Indians
(4) GLASSOW

The origins, development, and attainments of New World aboriginal cultures north of Mexico. Some emphasis is given to California groups such as the Chumash.

133. Cultural Development in Mesoamerica
(4) VOORHIES

Prerequisites: Anthropology 3 and 100.

The rise and fall of various ancient civilizations such as those of the Maya, Aztecs, Toltecs, Teotihuacanos, and Olmec as well as their cultural antecedents. This course uses self-paced audio-visual modules as well as traditional lecture format. (Offered periodically.)

134. Modern Cultures of Latin America
(4) CARLOS

Continuities and changes in the contemporary cultures of peasant and urban societies in Mexico, Central, and South America. Examination of cultural institutions and values, social stratification, village and urban life, elites, urbanization.

135. Modern Mexican Culture
(4) CARLOS

The impact of dependency, industrialization, urbanization, technology, and modern communications on Mexican society in the Twentieth century. Examination of recent sociocultural contemporary urban and rural communities, class structure, value orientations, ethnic minorities, and national integration.

136. Peoples and Cultures of the Pacific
(4) HARDING

The aboriginal and modern cultures of Polynesia, Melanesia, and Micronesia.

137. The Ancient Maya
(4) VOORHIES

The splendiferous Maya civilization as it waxed and waned during ancient times. This course uses self-paced audio-visual modules as well as the traditional lecture format.

138A. Elements of Traditional Chinese Culture
(4) YANG

Prerequisite: Anthropology 2.

An exploration of cultural, historical, and political elements in ancient and late imperial China which are relevant in understanding modern society in socialist China and Taiwan today. Emphasis is given to the cultural tradition of the state.

138B. Socialist Chinese Society
(4) YANG

Prerequisite: Anthropology 2.

An analysis of social, cultural, economic, and political patterns in the People's Republic of China, emphasizing the diverse changes instituted after the Revolution, as well as the new directions the society has taken since the economic reforms of the 1980s.

139. Applied Anthropology
(4) CARLOS

Examines the development, changing goals, and techniques of applied anthropology in the United States and Third World. Emphasis given to the role of anthropology in designing and implementing social change and development programs, services delivery programs, and program evaluation procedures.

141. Agriculture and Society in Mexico: Past and Present
(4) PALERM

The evolution of rural Mexico: from origins of Mesoamerican agriculture to the rise of high civilization; from the establishment of the colonial system to the demise of colonial agricultural institutions; from the revolution of 1910 to the enactment of land reform and development programs. Emphasis will be made on the role of peasantry in the making of the modern state.

142. Peoples and Cultures of India
(4) MINES

Rise of Indian civilization from prehistoric times to the present; regional divisions of India; family, kin, caste groups, and village life; social organization above village level; effects of urbanization, British rule, and independence.

143F. Ethics in Archaeology
(4) FAGAN

Prerequisite: Anthropology 3.

An analysis of ethics in contemporary archaeology. Topics include reburial and repatriation, interpretation of the archaeological record in the context of historically oppressed groups, ethnic minorities, and non-western societies. The course also includes the ethics of collecting and managing cultural property.

144. Peoples and Cultures of Southeast Asia
(4) BROWN

Drawing materials from Burma, Thailand, Laos, Cambodia, Vietnam, Malaysia, Singapore, Brunei, Indonesia, and the Philippines, this course is organized around the concept of the corporation as a tool for the comparative analysis of society. (Normally taught every other year.)

146. Development Anthropology
(4) ROBERTSON

Prerequisite: upper-division standing.

An introduction to the planning of economic development in the "Third World" and its social consequences from the perspective of anthropology.

147. Understanding Cultural Differences
(4) HATCH

The differences among human societies are enormous, and the question of how to account for this diversity is a key problem for anthropology. This course presents the main points of view for explaining how peoples differ in cultural beliefs and behavior.

148A. Comparative Ethnicity
(4) BROWN

Prerequisite: Anthropology 2 or 5 or consent of instructor.

A cross-cultural examination of the part that ethnicity and race play in human affairs.

150. Archaeology of the Inca Empire
(4) SCHREIBER

Prerequisite: Anthropology 3.

An in-depth study of the fabled Inca empire, including archaeological and historical sources. Topics include Inca origins, political organization, economy, and social structure.

150A The Archaeology of the Andean Preceramic
(4) ALDENDERFER

Prerequisites: Anthropology 100 or consent of instructor.

A survey of the early cultures of the Andean region, with a focus on the early occupation of South America, the domestication of indigenous plant and animal species, and the origins of social complexity of inequality.

150B Archaeology of Andean Civilizations
(4) SCHREIBER

Prerequisites: Anthropolgy 100 or consent of instructor.

A survey of the prehistory of Andean South America beginning with the complex cultures of the Initial Period and ending with an overview of the Inca Empire. Major cultures include Chavin,Nasca, Moche, Wari and Tiwanaku.

151. Fossil Evidence for Human Evolution
(4) WALKER
Prerequisites: Anthropology 5, 121 recommended.

Presentation and discussion of the fossil evidence for human evolution. Various interpretations will be discussed in light of the evolutionary theory and intellectual climate prevalent at the time of formulation.

151T. Evolution and Human Psychological Adaptation
(4) TOOBY
Prerequisite: Anthropology 5 or *equivalent* or *consent of instructor.*

A critical survey of the emerging field of evolutionary psychology, covering specific cognitive adaptations involved in mate choice, incest avoidance, cooperation, love, revenge, jealousy, and individual and intergroup aggression, and also analyzing how such evolved species-typical mechanisms generate human culture.

153. Seminar on Primate and Human Sexual Behavior
(4) BROWN, SYMONS
Prerequisite: consent of instructor.

A critical examination of the nature and determinants of human sexuality, emphasizing evolutionary and cross-cultural approaches.

153T. Primate Behavioral Ecology
(4) TOOBY
Prerequisite: Anthropology 5 or *equivalent* or *consent of instructor.*

An introduction to primatology and the principles of behavioral ecology, using langur, vervet, macaque, baboon, gorilla, and chimpanzee field studies to illustrate theories of foraging, parenting, kinship, sexual selection, incest avoidance, aggression, and dominance. Concludes with applications to human evolution.

154. Special Topics in Social Anthropology
(4) BROWN
Designed for students who intend to do graduate work in social or behavioral sciences. May be repeated once for credit. Seminar.

A critical review of selected theoretical and methodological contributions of social anthropology to the description, analysis, and comparison of human societies. (Normally taught every other year.)

155. Prehistory of California and the Great Basin
(4) GLASSOW
Prerequisite: upper-division standing.

A survey of the prehistory of California and the Great Basin, which includes principally the states of Nevada and Utah. Consideration is also given to how archaeologists construct regional cultural developments and attempt to explain prehistoric cultural change.

156. Understanding Africa
(4) ROBERTSON
Prerequisite: upper-division standing.

A general introduction to the peoples of Africa: their histories, economies, political systems, and cultures. How should we, as outsiders, understand the diversity of this great continent, its human problems, and its significance in the modern world?

159. Urban Anthropology
(4) STAFF

Cultural and psychic adaptation to urban agglomeration from the earliest cities, with emphasis on Asian, African, European, and modern American cities, to the present-day megalopolis.

160. Cultural Ecology
(4) JOCHIM
Prerequisite: Anthropology 2 or *3.*

Ranging from moose hunters to rice farmers, cultures seem tremendously diverse, yet cultural forms do show clear patterns. The relationship of these patterns to the natural and social environment will be examined.

162. Prehistoric Food Production
(4) VOORHIES
Prerequisite: Anthropology 3.

A history of the process of plant and animal domestication in the Americas, the Near East, Asia, and Africa. Course focuses on the specific biological changes in the major domesticates as well as associated social changes in human life.

163. Archaeology of North America
(4) ALDENDERFER
Prerequisite: Anthropology 2 or *3* or *5.*

A survey of North American archaeology exclusive of Mesoamerica. Changes in prehistoric lifeways from simple hunting and gathering to complex agriculturally based chiefdoms will be explored through the study of the development of regional traditions over long periods of time.

163N. Analysis of Archaeological Materials
(4) ALDENDERFER
Prerequisites: Anthropology 100 and *191.*

Intensive study of stone tool technology, with an emphasis on the manufacture, experimental use, and microscopic examination of stone tools.

164. The Origins of Complex Societies
(4) SCHREIBER
Prerequisite: Anthropology 3.

Why and how complex societies developed from simple, egalitarian societies in some areas of the world. Course surveys major theories and evidence surrounding the origins of states and urban societies in New and Old World.

166. Anthropological Approaches to Alcoholism
(4) MADSEN
Prerequisite: upper-division standing or *consent of instructor.*

Biological, psychological, and sociocultural aspects of addictions will be covered. While addictions in general, from drugs through gambling, will be examined, the emphasis will be on alcoholism. Rehabilitation modalities ranging from aversion to self-help groups will be covered.

167. People of the Ice Age
(4) FAGAN, JOCHIM
Prerequisite: Anthropology 3.

Human adaptations and population dispersals during the Ice Age (Pleistocene epoch). Course focuses on the nature of Stone Age cultures and the evidence for early human occupation of the Americas and the Old World between three million and 10,000 years ago.

168. Seminar on the Problems of Mexican Ethnology
(4) CARLOS
Prerequisite: Anthropology 134 or *135* or *consent of instructor.*

Focuses on problems in the contemporary ethnology of Mexico. Emphasis on the development of different ethnographic approaches and anthropological theories developed in Mexican field settings by anthropologists from Mexico and the United States. Includes consideration of topics and areas researched by the instructor.

169. Field Research in Mexican Society
(1-8) CARLOS
Prerequisite: Anthropology 168 or *consent of instructor.*

Will focus on the actual conduct of research in a Mexican setting. The problems researched will vary. Students will be trained and supervised in ethnographic data collection techniques and be expected to work directly on a research project. There will be regular lectures on research methods and strategies.

171. Economics of Primitive and Peasant Societies
(4) HARDING, MINES

Economic life of pre-market societies and the social consequences of their involvement in a money economy.

172. Colonialism: Social Effects
(4) STAFF
Prerequisite: consent of instructor.

Study of historical and social processes of colonialism in selected societies: influence on traditional institutions in Africa, Pacific, Asia; legacies in contemporary independent nations.

172H. Advanced Studies in Lithic Analysis
(4) ALDENDERFER
Prerequisite: Anthropology 3.

Students are introduced to the major analytical techniques for chipped stone tool analysis. Experience in the design and execution of research into the anthropological meaning of stone tools is emphasized. Special attention is devoted to gaining experience in microwear techniques.

174. Intra-Site Spatial Analysis in Archaeology
(4) ALDENDERFER
Prerequisite: Anthropology 3 or *100.*

This course is designed to introduce students to quantitative techniques useful for the analysis of spatially-distributed archaeological data within the site. A major focus of the course is the integration of theory, method, and data to solve anthropological problems.

175. Southwestern Archaeology
(4) SCHREIBER
Prerequisite: Anthropology 3.

Understanding the sequence of cultural developments in the southwest United States. Reconstructing prehistoric economy and society through study of material remains, such as the cliff dwellings of Mesa Verde, Chaco Canyon's great pueblos, and the ballcourts, platform mounds, and irrigation systems of desert Hohokam.

176. Seminar in Contemporary Ethnology
(4) STAFF
Enrollment restricted to majors with a 3.5 grade-point average minimum.

Discussion seminar based on intensive, critical reading of important anthropological works. Intended as preparation for graduate work.

179. Seminar on the Anthropology of Symbolism
(4) MINES
Prerequisite: consent of instructor.

A cross-cultural inquiry into the nature and role of symbolism in human society. Discussions on nonverbal communication, myth, ethos, world view, national symbols, political ideology, and the ideology of social structure as symbolic systems.

180A. Faunal Analysis
(4) WALKER
Prerequisite: consent of instructor.

Class is designed to teach students in archaeology and physical anthropology the basic skills necessary to identify and analyze the remains of animals recovered from archaeological excavations. Emphasis is placed on laboratory work with actual archaeological collections and testing hypotheses about prehistoric human behavior.

180B. Faunal Analysis
(4) WALKER
Prerequisites: Anthropology 180A and *consent of instructor.*

Continuation of Anthropology 180A with the development of a research project.

181. Methods and Techniques of Field Archaeology
(6) GLASSOW
Prerequisites: Anthropology 3 and *100.*

Introduction to archaeological research designs and field techniques of data collection, including survey, excavation, and site data recording. Course entails two lectures during the week and fieldwork all day Saturday.

182. Quantitative Data Analysis in Archaeology.
(4) ALDENDERFER
Prerequisites: Anthropology 3 and *100.*

This course is an introduction to the practical analysis of commonly-encountered archaeological data using simple quantitative and statistical procedures such as exploratory data analysis, sampling, regression, and spatial analysis. The course is taught in a computer-assisted (multimedia) format.

182M. Introduction to Lithic Analysis
(4) ALDENDERFER

Prerequisites: Anthropology 3 or 100.

This course gives students an introduction to the anthropology and archaeology of making and using stone tools. Practical experience in making tools and using them experimentally is emphasized.

184. Settlement Pattern Analysis in Archaeology
(4) SCHREIBER

Prerequisite: Anthropology 100.

How the arrangement of archaeological sites across the landscape indicates aspects of human culture, including subsistence strategies and socio-political complexity. Methods of obtaining and interpreting settlement data.

187. The Clash of Cultures
(4) FAGAN

Largely self-paced learning.

A historical and anthropological survey of contact between western civilization and nonwestern societies from medieval times up to the early twentieth century. Peoples covered include Khoi, Aztecs, Tahitians, Fuegians, Maori, and Northwest Indians.

187A. The Impact of Columbus
(4) FAGAN

Prerequisites: Anthropology 2 and 3.

An assessment of the cultural and intellectual impact of Columbus' discovery of the Americas on both native American and European culture.

188. The Seacoast in Prehistory
(4) STAFF

Prerequisite: Anthropology 3.

An examination of maritime adaptations in world prehistory, emphasizing the integration of marine resources into economies of varying degrees of complexity. Course will cover New and Old World culture areas and the Santa Barbara region.

189. Problems in European Prehistory
(4) JOCHIM

Prerequisites: Anthropology 167 and consent of instructor.

Seminar in selected problems in the archaeology of Europe.

190. Seminar on Political Anthropology of Latin America
(4) CARLOS

Examines the role of the state in society, authoritarianism, revolution, and sociocultural basis and historical background of politico-cultural traditions and institutions which characterize Latin American societies and communities.

191. Laboratory Techniques in Archaeology
(6) GLASSOW

Prerequisites: Anthropology 3.

Introduction to the observation and measurement of artifact attributes and procedures for preparation and analysis of archaeological collections. Technology of prehistoric artifact manufacture and use is also considered.

193. Problems in Mesoamerican Prehistory
(4) VOORHIES

Prerequisites: Anthropology 133 and consent of instructor.

Seminar in selected problems in archaeology of Mesoamerica.

194. Field Training in Mesoamerican Archaeology
(1-8) STAFF

Prerequisites: Anthropology 3, 100, and 133; consent of instructor.

Introduction to design of research projects and techniques of data collection in Mesoamerican archaeology. The number of units taken in one course will depend on the amount of training and experience received.

194P. Practicum in Field and Laboratory Analysis
(1-4) STAFF

Prerequisites: Anthropology 100 and consent of instructor. May be repeated to a maximum of 6 units.

An applied course emphasizing acquisition of practical skills in archaeological field work and laboratory analysis. Projects will vary depending on the type of archaeological research in progress, but may include artifact processing, cataloging, field excavation, and preparation of research results.

195A-B. Senior Honors Program
(4-4) STAFF

Prerequisite: admission to senior honors program. This is a two-quarter, in-progress course with letter grade assigned for both quarters upon completion of Anthropology 195B.

Independent research under the supervision of an anthropology faculty member which will result in senior thesis.

A: Will concentrate on reading and gathering of materials for thesis.

B: Writing of thesis will be completed.

197. Special Courses
(4) STAFF

Prerequisite: qualified upper-division students or consent of instructor. May be repeated to a maximum of 12 units provided content is different.

Intensive studies or projects focused on special problems related to anthropology which are not covered by other courses.

198. Independent Readings in Anthropology
(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for preceding 3 quarters or consent of instructor; 3) have completed at least 2 upper-division courses in anthropology. Students limited to 5 units per quarter and 30 units overall in all 198/199 courses combined. My be repeated to a maximum of 12 units in anthropology.

Intended for students who know their own reading needs. Normally requires regular meetings with the instructor.

199 Independent Studies in Anthropology
(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for preceding 3 quarters or consent of instructor; 3) have completed at least 2 upper-division courses in anthropology. Students limited to 5 units per quarter and 30 units overall in all 198/199 courses combined. May be repeated to a maximum of 12 units in anthropology.

Students must execute a limited research project on their own initiative.

199RA. Undergraduate Research Assistance Training in Anthropology
(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for last three quarters or consent of instructor; 3) have completed at least two upper-division courses in anthropology. may be repeated to maximum of 12 units.

Student gains research experience through assisting faculty member in research project.

GRADUATE COURSES

200. Summer Field School in Archaeology
(8) STAFF

Prerequisite: consent of instructor.

Introduction to the planning and implementation of full-scale archaeological projects. The opportunity will be given to formulate and carry out research designed and to direct crews in data collection.

201. Archaeological Theory and Concepts
(4) JOCHIM

Examination of the theoretical framework for the explanation of prehistoric behavior.

204A. Issues in Prehistory—I
(4) FAGAN

An intensive survey of world prehistory from the earliest times up to the advent of food production. The course focuses on the history of research, basic theoretical and intellectual issues, and culture history in Old and New Worlds.

204B. Issues in Prehistory—II
(4) SCHREIBER

An intensive survey of world prehistory from the advent of food production through the rise of complex societies. Course focuses on basic theoretical issues, history of research, and culture history in Old and New Worlds.

206. Current Problems in Archaeology
(4) STAFF

Course may be repeated for credit.

Critical examination of a selected aspect of contemporary archaeological research and theory. Topics will vary from year to year.

207. Problems in Hunter-Gatherer Archaeology
(4) JOCHIM

Prerequisite: consent of instructor.

A problem-oriented seminar focusing on major issues in the archaeology of hunter-gatherers.

209. Problems in Mesoamerican Archaeology
(4) VOORHIES

A problem-oriented approach to the major issues of Mesoamerican prehistory. Conducted on a seminar basis.

210. Basic Issues in Physical Anthropology
(4) WALKER

Prerequisite: consent of instructor.

A review of basic issues in physical anthropology for graduate students in archaeology.

211. Field Mapping
(4) VOORHIES

A field course on the production of topographic maps of archaeological sites. Course includes experience using tape and compass, alidade and transits.

212. Advanced Laboratory Techniques in Archaeology
(6) GLASSOW

Prerequisite: Anthropology 191 or equivalent.

Consideration of techniques for observation and measurement of artifact attributes, procedures for preparation and analysis of archaeological collections, organization of archaeological laboratories, and technology of prehistoric artifact manufacture and use.

218. Problems in Andean Archaeology
(4) SCHREIBER, ALDENDERFER

A problem-oriented approach to major issues in Andean archeology. Conducted on a seminar basis.

219. War and Coalitional Aggression
(4) TOOBY

The evolution, psychology, and anthropology of warfare and coalitional aggression will be examined, with emphasis on small-scale societies and face to face groups, as well as related phenomena such as mob psychology, lynchings, hierarchies, factions, in-group bias, and ethnocentrism.

220. Prehistory and Ethnography of Western North America
(4) GLASSOW

Seminar investigation of selected problems of prehistoric and historic developments in North America west of the Rocky Mountains.

221. Foragers to Farmers
(4) VOORHIES

Foragers to Farmers explores the transition from hunting-gathering to farming. It will explore the ethnographic subtleties of human-plant interactions, the archaeological methods used to tease these patterns from prehistoric remains, and the theoretical explanations proposed to explain this fundamental subsistence shift.

222. Ethnography and Cultural Studies
(4) HATCH

The purpose of this course is to read and assess some of the major ethnographic works by anthropologists within the area of cultural studies. Emphasis is upon understanding both conceptual and methodological foundations of this research.

224. Households
(4) ROBERTSON

A comparative and historical study of the household: Its theoretical interpretation, empirical manifestations, and the methods appropriate to its analysis.

225. Peasants and Industrialization: "Traditional" Rural Societies
(4) PALERM

The interaction between peasant and industrial socioeconomic formations is examined through three intellectual traditions: late nineteenth century Marxian writers, twentieth-century development anthropologists, and proponents of the theory of the articulation of modes of production.

229. Major Issues in the History of Cultural Anthropology
(4) STAFF

Prerequisite: graduate standing.

A history of cultural anthropology as revealed in the writings on major theoretical problems beginning in the 1850s, the disputes, the solutions, and final appraisal of where we stand today.

230. Language, Culture, and Society
(4) STAFF

The study of language in its cultural setting and the effect of language on the culture. Topics to be covered are: language universals, language typologies, structuralism, diachronic linguistics, and fieldwork methodologies.

232. Current Problems in Ethnology
(4) STAFF

Seminar in selected topics in ethnology.

233A-B. Faunal Analysis
(4-4) WALKER

Prerequisite: consent of instructor.

Class is designed to teach students in archaeology and physical anthropology the basic skills necessary to identify and analyze the remains of animals recovered from archaeological excavations. Emphasis is placed on laboratory work with actual archaeological collections and testing hypotheses about prehistoric human behavior. Anthropology 233B is a continuation of Anthropology 233A with the development of a research project.

234. Advanced Theory and Method in Evolutionary Psychology
(4) TOOBY

The human mind is a set of information processing procedures that evolved into their present form because they solved adaptive problems for our hunter-gatherer ancestors. Covered: specific adaptations, how mechanisms structure culture, methodological issues, and the design of cross-cultural studies.

235. Political Anthropology
(4) CARLOS

A critical examination of the main themes and theories of political anthropology.

236. Anthropology of World System
(4) CARLOS

Examines the process of colonialism and the penetration of global capitalism in local-level societies of Africa, Asia, and Latin America, utilizing an explicit world system framework. Reviews world system and related anthropological theories, and applies them to specific ethnographic cases.

237A. Anthropology of Development
(4) MINES

The role of anthropology in process of development stressing theory and practice. Stresses theories of development and problems of inequality, focusing on Asia and the Pacific.

237B. Anthropology of Development
(4) STAFF

Prerequisite: consent of instructor.

The role of anthropology in process of development stressing theory and practice. Stresses policies and approaches of agencies of development, focusing on Africa and Latin America.

238. Economic Anthropology
(4) HARDING, MINES

A critical examination of the main themes and theories of economic anthropology.

239. Professionalism in the Social Sciences
(4) VOORHIES

The social structure of anthropology as a profession; the literary forms to be mastered; dealing with funding institutions, publishers, employers, professional organizations; ethical and applied problems of the professional. Assignment is first draft of research proposal.

240. Research Methods in Cultural Anthropology
(4) CARLOS, STONICH

Designed to give students a solid grounding in basic research methods in cultural anthropology. Focus on the role of fieldwork, preparation for field research (ethics, health, and gender), systematic data collection, qualitative data base management, and analysis.

241. Development Planning
(4) ROBERTSON

An exploration of the history, motives, structures, and processes of economic development planning in its national and international contexts, with particular reference to the practical involvement of anthropologists.

242. Archaeology of Imperialism
(4) SCHREIBER

Theoretical and archaeological approaches to prehistoric empires. Overview of major empires. In depth treatment of Andean empires.

245A. Quantitative Data Analysis Archaeology
(4) ALDENDERFER

This course is an introduction to the practical analysis of commonly-encountered archaeological data using simple quantitative and statistical procedures, such as exploratory data analysis, sampling, regression, and spatial analysis. The course is taught in a computer-assisted (multimedia) format.

245B. Quantitative Data Analysis in Archaeology
(4) ALDENDERFER

Prerequisite: Anthropology 245A.

A working knowledge of quantitative methods that aid recognition of patterns in archaeological data; an understanding of the sorts of archaeological problems that can be attacked quantitatively; and experience in research designs which yield data that can be effectively analyzed.

250AA-ZZ. Method and Theory in Anthropology
(4) STAFF

A discussion of general problems in anthropology. Consult with department office for faculty designation.

252. Social Anthropology
(4) BROWN

Seminar on selected topics in social anthropology.

254. Interpretive Theory and Anthropology
(4) YANG

An examination of a variety of interpretive theories and their relevance to cultural anthropology. Interpretive approaches to religion and ideology, economy, power, gender, and ethnographic representation will be discussed.

260. Cognitive Adaptations and Cultural Transmission
(4) TOOBY

Cultural transmission between individuals and the distribution of representations within groups and across cultures are governed by underlying cognitive adaptations. New research in developmental, cognitive, and evolutionary psychology is related to theories of culture, ideology, conceptual systems, and social institutions.

261 Proseminar: Survey of Biological Anthropology
(4) TOOBY

A reading-intensive survey of the major issues, methods, and findings relevant to biological anthropology, including basic paleoanthropology, primatology, behavoral ecology, evolutionary biology, genetics, and the study of physiological and psychological adaptations.

270C. Problems in Southeast Asian Ethnology
(4) BROWN

Seminar in selected problems in ethnology of Southeast Asia.

270D. Problems in South Asian Ethnology
(4) MINES

Seminar in selected problems in ethnology of South Asia.

270F. Problems in Oceanic Ethnology
(4) HARDING

Seminar in selected problems in ethnology of Oceania.

270G. Problems in Latin American Ethnology
(4) STAFF

Seminar in selected problems in ethnology of Latin America.

501. Teaching Assistant Practicum
(4) STAFF

Prerequisite: appointment as a teaching assistant in anthropology. No unit credit allowed toward degree.

The course, designed to meet the needs of the graduate student who serves as a teaching assistant, includes analyses of texts and materials, discussion of teaching techniques, conducting discussion sections, formulation of topics and questions for papers and examinations, and grading papers and examinations under the supervision of the instructor assigned to the course.

502 Practicum on Computer and Multimedia Applications in Ethnology
(4) STAFF

Prerequisites: Basic knowledge of microcomputers.

Students learn applications of computers, peripherals, and/or multimedia (audio, video, slides, text, graphics) technologies to ethnology, analysis of ethnological data, and construction of data banks. Reading assignments made. Students demonstrate knowledge gained in a hands on demostration. Fianl report written.

596. Directed Reading and Research
(2-6) STAFF

Prerequisite: normally no more than half the graduate units necessary for the master's degree may be taken in 596.

Individual tutorial.

597. Individual Study for Master's Comprehensive Examinations
(2-6) STAFF

Prerequisite: no unit credit allowed toward degree.

Individual tutorial.

598. Master's Thesis Research and Preparation
(2-6) STAFF

No unit credit allowed toward degree.

Individual tutorial.

599. Dissertation Research and Preparation
(2-12) STAFF

No unit credit allowed toward degree.

Individual tutorial.

Art History

Department of Art History, Division of Humanities and Fine Arts, Arts Building 1234; Telephone (805) 893-2417

Department Chair: Fikret K. Yegül

Faculty

C. Edson Armi, Ph.D., Columbia University, Professor *(medieval architecture)*

Larry M. Ayres, Ph.D., Harvard University, Professor *(medieval art)*

Marla Berns, Ph.D., UC Los Angeles, Adjunct Professor *(African art, museum studies)*

Herbert M. Cole, Ph.D., Columbia University, Professor *(African, Oceanic, North American Indian art, architecture)*

Mario A. Del Chiaro, Ph.D., UC Berkeley, Professor *(ancient art; Egyptian, Greek, and Etruscan art)*

Henri Dorra, Ph.D., Harvard University, Professor *(19th- and 20th-century European art)*

Beatrice Farwell, Ph.D., UC Los Angeles, Professor Emerita

Ramon Favela, Ph.D., University of Texas at Austin, Associate Professor *(modern Latin American art, contemporary Chicano art)*

David S. Gebhard, Ph.D., University of Minnesota, Professor *(modern architecture, North American Indian art)*

Ulrich F. Keller, Ph.D., University of Munich, Professor *(history of photography)*

Nuha Khoury, Ph.D., Harvard University, Assistant Professor *(Byzantine art and architecture)*

Peter T. Meller, Ph.D., Budapest University, Professor *(renaissance art)*

Alfred K. Moir, Ph.D., Harvard University, Professor Emeritus

Prudence R. Myer, Ph.D., Radcliffe College, Professor Emerita

Jeanette Peterson, Ph.D., Harvard University, Assistant Professor *(Latin American art history)*

E. B. Robertson, Ph.D., Yale University, Assistant Professor *(18th- and 19th-century British and American art)*

Peter C. Sturman, Ph.D., Yale University, Assistant Professor *(Chinese art)*

Corlette R. Walker, Ph.D., Bryn Mawr, Senior Lecturer with Security of Employment Emerita

Robert Williams, Ph.D., Princeton University, Assistant Professor *(art theory, historiography, Italian renaissance)*

Fikret K. Yegül, Ph.D., Harvard University, Professor *(Greek and Roman art, architectural history)*

The Department of Art History offers an undergraduate program directed toward a B.A. degree and graduate programs leading to the M.A. and Ph.D. degrees. The undergraduate program in art history is designed to provide thorough and comprehensive basic training in and understanding of art as a humanistic activity. It also prepares students for graduate training leading to careers as professional historians of art, museum curators, or critics, and in such other fields of the visual arts as art administration, historic preservation, and art gallery work. The program is supported by an excellent arts library, slide collection, and architectural drawing collection.

After completing specific prerequisites, students with a bachelor's degree in art history are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

The department publishes a list that describes the content of art history courses offered each quarter; the publication is available for study prior to registration in classes. Advising is available in the department through the undergraduate adviser and the department chair.

Undergraduate Program

Bachelor of Arts—Art History

Preparation for the major. Twenty-four units in lower-division courses including Art History 6A-B-C (12 units); two courses from Art History 6D, 6E, or 6H; and one course from Art History 6F, 6G, 6I, or 7A. The department recommends that the Art History 6A-B-C series be taken in conjunction with History 4A-B-C. Recommended but not required: French 3, or German 3, or Italian 3, or Spanish 3. Students planning graduate training in art history are advised to develop a reading knowledge of German, French, or Italian. (See honors program requirements below.)

Upper-division major. Forty-four units in upper-division art history courses including 4 units from the Art History 152 series; 4 units from the Art History 153 series; 8 units from the Art History 155-156-157-158 series; 4 units from the Art History 159* series or 161A; 4 units from the Art History 160* series or 161B-C-E-F-G-H; two courses from different areas: (1) African, (2) Oceanic, (3) Native American, (4) Pre-Columbian, (5) Islamic, (6) Asian; and three additional electives in art history excluding Art History 193. Chicano Studies 145 and 146 may be used as electives in the major. *Note: Students who wish to focus on a particular area, civilization or branch of art history (i.e., Ancient, Architecture, or Asian) are encouraged to speak to departmental advisers or faculty. This focus may also include an undergraduate honors project (an additional 4 units).*

*Either Art History 159G or 160H, but not both, may be taken in fulfillment of the 159 or 160 series requirements.

In accordance with the distribution requirements as indicated in Areas A through G, the major must include among the distribution a course meeting architectural history requirement from among the following: Art History 151C, 151I, 152A, 152F, 152G, 152J, 152K, 152L, 153A, 153C, 153D, 153G, 153I, 153J, 154D, 156G, 157B, 157E, 159C, 160A, 161D, 164B, 164I, 165A, 165B, 165C, 165D, 165E. The fulfillment of this coverage requirement may be satisfied within the required 44 upper-division units.

Honors Program

Students may apply to the department chair, the undergraduate adviser, or individual faculty members for nomination to the departmental honors program. Applicants must have an overall grade-point average of at least 3.0 and must have completed at least 12 upper-division units in the major with a 3.5 grade-point average. These grade-point averages must be sustained in order to qualify for honors.

Program requirements include at least three quarters in either French or German, or in a language relevant to the student's field of concentration, and 48 upper-division or graduate units in art history. Honors candidates must take 8 units in graduate seminars, or upper-division reading courses if a seminar is unavailable, in one field of concentration in which they will write an honors thesis. Deadline for the thesis is the Monday of the eighth week of the second quarter of honors studies. Students successfully completing the honors project will be eligible for Distinction in the Major at the time of graduation.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Art History

The Master of Arts is offered in the following major areas or fields of art: Primitive, Ancient, Medieval, Renaissance, Baroque and Rococo, Nineteenth-Twentieth Century, American, Pre-Columbian, Asian, Colonial and Modern Latin American, History of Architecture, and History of Photography.

Admission

Candidates usually present a bachelor's degree in art history, normally with not less than a B$^+$ (3.3) average in the major. They are expected to know the general history of western art and architecture and to have some knowledge of at least one nonwestern artistic tradition. Applications for fellowships and teaching assistantships must be received in the department by January 31. Applicants must take the Graduate Record Exam.

Degree Requirements

After admission to graduate standing, and before the second year of residence, every student must demonstrate ability to read one foreign language necessary to conduct art historical research (normally French or German). Every student will take a two-hour general examination on the history of art as presented in standard art survey texts. This test must be passed before the student can be advanced to candidacy. The degree requires a minimum of three quarters of intensive work; students are encouraged to complete it within six quarters. Candidates demonstrating exceptional achievement may be awarded departmental honors.

All M.A. students must take at least 16 units in graduate seminars in at least three different fields. Their other work will be drawn from the list of upper-division courses, graduate seminars, and reading and research courses taught by the art history faculty.

Students will follow one of the following plans: Plan 1 (thesis), which requires a minimum of 30 units of work for a letter grade plus a thesis; or Plan 2 (comprehensive examination), which requires a minimum of 36 units of work for a letter grade plus a comprehensive examination.

Doctor of Philosophy—Art History

The Ph.D. degree program is designed for mature and well-trained scholars who have a sound foundation in art history. The Ph.D. degree in art history is offered in the following major areas or fields of art: Primitive, Ancient, Medieval, Renaissance, Baroque and Rococo, Nineteenth-Twentieth Century, Colonial and Modern Latin American, American Art, History of Architecture, and History of Photography. The department has special fellowship awards at its disposal for campus residency and research travel.

Admission

Candidates for admission to the program must have completed a master's degree in the history of art. A copy of the M.A. thesis or a substantial paper of a scholarly nature should be submitted at the time of application. Application for fellowships and teaching assistantships must be received in the department by January 31. Applicants must take the Graduate Record Exam.

Degree Requirements

Students entering the program will take a four-hour examination in the history of art with emphasis on the area of their intended specialization. Before advancement to candidacy, students must demonstrate their ability to read German and either French or Italian, and may be required to learn another language (or languages) essential to their field of specialization.

The Ph.D. program requires a minimum of 24 units in graduate courses, planned around a major field and two minors, one related and one unrelated to the major. Written examinations are required in the major and at least one minor; the second minor may be satisfied by taking two seminars in the field. Twenty letter-grade seminar units are required (16 if both minors are satisfied by examination).

At the end of the first year, the student's work will be reviewed by the faculty to see whether it satisfies the standards of the department and the university. Not later than four years after starting the program, the student will submit a preliminary outline of the proposed dissertation. A doctoral committee will be appointed to supervise the program of research; the committee will also administer the oral qualifying examination. The dissertation will be carried out under the direction of the student's adviser and the doctoral committee; it must be an original contribution to the history of art. Every student in the Ph.D. program must serve a minimum of two quarters as a teaching assistant.

Art History Courses

LOWER DIVISION

Freshman seminars are offered on an irregular basis.

1. Introduction to Art

(4) STAFF

Prerequisite: not open to Art History majors.

A study of art as a medium of expression.

2FS Freshman Seminar

(4) STAFF

Prerequisities: freshmen only

Special topics on connoisseurship, research, and themes of western art.

6A. Art Survey I: Ancient Art

(4) DEL CHIARO

From the Stone Age to the end of the Roman Empire. (F)

6B. Art Survey II: Medieval Art

(4) AYRES

From the early Christian period to the Renaissance. (W)

6C. Art Survey III: Renaissance-Modern Art

(4) STAFF

From the Renaissance through modern art. (S)

6D. Survey: Asian Art

(4) STURMAN

The arts of India, China, and Japan.

6E. Survey: Exotic Arts

(4) COLE

A conceptual, cross-cultural introduction to Amerind, Eskimo, African, and Oceanic arts: artists, sculpture, festivals, body decoration, masking, architecture, and painting will be seen in the context of social and religious values. Films, slides, and museum tours.

6F. Survey: Architecture and Planning

(4) YEGÜL

A selective chronological survey of architecture and urban design in social and historical context. Individual buildings and urban plans from the past to the present will be used as examples.

6G. Survey: History of Photography

(4) KELLER

A critical survey of nineteenth- and twentieth-century photography as an art form.

6H. Pre-Columbian Art

(4) PETERSON

Prerequisite: not open for credit to students who have completed Art History 7E.

An introduction to 5000 years of pre-columbian art in Mexico, Central America, and Peru, to be approached through major monuments of sculpture, architecture, ceramics, textiles, and painting, and examined against the background of early American religious, social, and political institutions.

6I. A History of Latin American Art and Architecture

(4) FAVELA

Prerequisite: not open to credit if Art History 161D completed.

Major monuments of new Spanish-Portuguese art and architecture in the New World, sixteenth century to the present. Emphasis on postconquest mixtures of European and indigenous styles during the colonial period and major developments in modern Latin American art since independence.

7A. Politics in Art Since 1800

(4) STAFF

Revolutions and the rise of the Avant-Garde in painting, sculpture, and architecture.

UPPER DIVISION

145. Chicano Art: Symbol and Meaning

(4) FAVELA

Prerequisite: upper-division standing. Same course as Chicano Studies 145.

This iconography course traces the sources and historical development of symbols and forms that originated in the art of New Spain and Mexico and became crucial for the development of a contemporary Chicano art. Emphasis is given to artistic conceptions of America and Aztlan by Mexican, Mexican American, and Chicano artists.

146. Contemporary Chicano Art

(4) FAVELA

Prerequisite: upper-division standing. Same course as Chicano Studies 146.

The Chicano art movement is examined and appraised within the context of contemporary American art and the contemporary art of Mexico. This course provides a survey of major Chicano and Chicana artists and developments in Chicano painting, sculpture, graphic, and conceptual art from the late 1960s to the present.

149A. History of Art Theory and Criticism

(4) WILLIAMS

Prerequisite: upper-division standing.

A historical survey of discourse concerning the visual arts from antiquity to the present, designed to introduce the most important issues and authors. The modern period is emphasized, with nearly half the term devoted to post-Enlightenment thought.

150. Art in the Modern World

(4) STAFF

Prerequisites: upper-division standing. For nonmajors only or consent of instructor.

An examination of art of the last 100 years. Treats painting, architecture, and sculpture in a manner that emphasizes the social, economic, and cultural background.

151C. Arts of the South Seas

(4) COLE

Prerequisites: Art History 6E; upper-division standing.

An introduction to masking, sculpture, festivals, body decoration, and architecture of Melanesia, Micronesia, and Polynesia, stressing the relationship of art to life.

151D. History of Native Art and Architecture of North America

(4) GEBHARD

Prerequisite: upper-division standing.

Survey of indigenous painting, sculpture, architecture, and other arts of North America as experienced through several major traditions. Principle emphasis on presentation of traditions as they developed and intermingled during the centuries before and through early years of European contact.

151E. North American Indian Arts in Context

(4) COLE

Prerequisite: upper-division standing.

Survey of American Indian arts by regions: masks, figures, "totem poles," painting, architecture, beadwork, pottery, dress. Emphasis on art-in-context, values, and world views in the arts. Some prehistoric traditions discussed but stress on more recent ethnographical data.

151F. African Art—I

(4) COLE

Prerequisites: Art History 6E; upper-division standing.

The relationship of art to life in sub-Saharan Africa. A cross-cultural survey of types, styles, history, and values of arts ranging from personal decoration to the state festival, stressing Ashanti, Ife, Benin, Yoruba, Cameroon.

151G. African Art—II

(4) COLE

Prerequisites: Art History 6E, 151F, or consent of instructor; upper-division standing.

An in-depth continuation of Art History 151F in a seminar/discussion format. Selected topics in masking, figural sculpture, etc., and emphasis on African contexts of ritual and social life.

151H. The Art of Festivals

(4) COLE

Prerequisites: Art History 6E; upper-division standing.

An examination of African, Oceanic, and American Indian festivals and rituals as works of art; structural and functional analyses of ceremonies recorded on film and videotape. Emphasis on the aesthetic interaction of dance, music, gesture, and the visual arts.

151I. Primitive Architecture

(4) COLE

Prerequisite: upper-division standing.

A selective conceptual and geographical examination of architecture in North America, Africa, Indonesia, and Oceania. Among topics discussed are: mythology, ritual, anthropomorphism, world renewal, social structure, cults, occupation, and world view as manifested in architectural forms and concepts.

152A. Ancient Art: Egypt

(4) DEL CHIARO

Recommended preparation: Art History 6A.

The architecture, sculpture, and painting of ancient Egypt from prehistoric through Roman times.

152E. Ancient Art: Greece I (1100 to 500 B.C.)

(4) DEL CHIARO

Prerequisite: upper-division standing; recommended preparation: Art History 6A.

The architecture, sculpture, and painting of ancient Greece from the Iron Age (geometric period) to the beginning of the fifth-century classical period; emphasis on the archaic period.

152F. Ancient Art: Greece II (500 to 30 B.C.)
(4) DEL CHIARO
Prerequisite: upper-division standing; recommended preparation: Art History 6A, 152E.
The architecture, sculpture, and painting of ancient Greece from the fifth-century classical period through the Hellenistic Age to the advent of the Roman Empire.

152G. Ancient Art: Etruscan Art
(4) DEL CHIARO
Prerequisites: upper-division standing; Art History 6A, 152E, and 152F.
The architecture, sculpture, and painting of ancient Italy from prehistoric times through the Etruscans; emphasis on the Etruscans.

152I. Ancient Art: The Roman Empire II (A.D. 69 to 337)
(4) YEGÜL
Prerequisite: upper-division standing; recommended preparation: Art History 6A.
The architecture, sculpture, and painting of the Roman Empire from the Republic through the Constantinian Age.

152J. Ancient Art: Greek Architecture
(4) YEGÜL
Prerequisite: upper-division standing; recommended preparation: Art History 6A.
The architecture of the Greek world from the archaic period through the Hellenistic Age.

152K. Ancient Art: Roman Architecture
(4) YEGÜL
Prerequisite: upper-division standing; recommended preparation: Art History 6A.
The architecture of Rome and the Empire from the Republic through the Constantinian era.

152L. Ancient Art: Late Roman and Byzantine Architecture
(4) YEGÜL
Prerequisite: upper-division standing; recommended preparation: Art History 6B.
The architecture of the post-Constantinian world and that of the early Byzantine and Justinianic periods.

153A. Medieval Art: Early
(4) AYRES
Prerequisite: upper-division standing.
Architecture, sculpture, painting, and the minor arts of the early Middle Ages in western Europe from the fourth to the eleventh century.

153B. Medieval Art: Byzantine
(4) AYRES
Prerequisite: upper-division standing.
Architecture, sculpture, painting, and the minor arts of the Byzantine world from A.D. 330 to 1453.

153C. Medieval Art: Romanesque
(4) AYRES
Prerequisite: upper-division standing.
Architecture, sculpture, and painting of the Romanesque period in Western Europe from A.D. 1050 to 1200.

153D. Medieval Art: Gothic
(4) AYRES
Prerequisite: upper-division standing.
Architecture, sculpture, and painting of the Gothic period in Western Europe from A.D. 1150 to 1400.

153E. Medieval Art: Italy, Thirteenth and Fourteenth Centuries
(4) AYRES
Prerequisite: upper-division standing.
The emergence of humanistic and civic ideas in the art of the Italian trecento and quattrocento. A survey of large civic programs of secular and secularized ecclesiastical art of the two centuries. Sculpture, architecture, and painting will be discussed.

153F. Gothic Painting 1200 to 1400
(4) AYRES
Prerequisite: upper-division standing.
The origins and development of Gothic painting in France, England, and the Lower Rhineland with special reference to Parisian manuscript illumination and to the influence of Italian art in the north during the fourteenth century.

153G. Gothic Architecture and Sculpture
(4) ARMI
Prerequisite: upper-division standing.
The study of the Gothic cathedral and its adornment as an expression of medieval cultural and spiritual outlooks.

153H. Carolingian and Ottonian Art
(4) AYRES
Prerequisite: upper-division standing.
Art and architecture of western Europe associated with the patronage of ruling dynasties in the ninth, tenth, and eleventh centuries. Artistic developments from the reign of Charlemagne to Henry III.

153I. Medieval Art: Early Medieval and Romanesque Architecture
(4) ARMI
Prerequisite: upper-division standing. Recommended preparation: Art History 6B.
A survey of medieval European architecture between the reign of Charlemagne and the advent of the Gothic (A.D. 750 - 1150), concentrating on the Carolingian, Ottonian, Anglo-Saxon, and Romanesque periods.

153J. Medieval Art: Gothic Architecture
(4) ARMI
Prerequisite: upper-division standing. Recommended preparation: Art History 6B.
A survey of medieval European architecture from the beginning of the Gothic to the beginning of the Renaissance (A.D. 1150 - 1500), concentrating on buildings in France, England, and Germany.

153K. Art and Society in Late-Medieval Tuscany
(4) WILLIAMS
Prerequisite: upper-division standing.
The dramatic developments in central-Italian art from the eleventh to the fourteenth centuries are presented against a historical background: emergent capitalism, the gradual replacement of feudal authority with representative governments, popular religious movements and the first stirrings of humanism.

153L. Medieval Architecture: From Constantine to Charlemagne
(4) ARMI
Prerequisite: upper-division standing. Art History 6B is recommended.
A survey of the architecture in Italy, France, Spain, Germany, and England from the Early Christian through the Carolingian periods.

153M. The Origins of Romanesque Architecture
(4) ARMI
Prerequisite: Art History 153L or 153N or consent of instructor.
Eleventh century architecture in France, Italy, Spain, Germany, and England.

153N. Late Romanesque and Gothic Architecture
(4) ARMI
Prerequisite: Art History 6B or 153L or 153M.
Twelfth and thirteenth-century architecture in France, Italy, Spain, Germany, and England.

154B. Pre-Columbian Art of South America
(4) PETERSON
Prerequisite: upper-division standing.
The architecture, sculpture, ceramics, textiles, and metalwork of the Andean civilizations from 3000 B.C. to 1532 will be examined with their archaeological and cultural contexts.

154C. Pre-Columbian Art of Mexico
(4) PETERSON
Prerequisite: upper-division standing.
Study of the art and architecture in selected cultures of northern Mesoamerican (non-Maya) from ca. 1200 B.C. to the Conquest with an emphasis on iconographical and historical problems.

154D. Pre-Columbian Art of the Maya
(4) PETERSON
Prerequisite: upper-division standing.
The arts of Maya-speaking cultures in southern Mesoamerica will be explored using archeological, epigraphic, and ethnographic data to help reconstruct Maya religion.

155B. Fifteenth-Century Painting in Northern Europe
(4) STAFF
Prerequisite: upper-division standing.
The development of painting in the Lowlands, Germany, and France from c. 1380 to 1500. Major artists include Jan van Eyck, Hieronymus Bosch, and the young Dürer. The course explores related stylistic and iconographical aspects of sculpture, tapestry, prints, and goldsmith work.

155C. Renaissance Art in Fifteenth-Century Italy 1400 to 1450
(4) MELLER
Prerequisite: upper-division standing.
Fifteenth-century painting, sculpture, and architecture in Italy, principally Florentine from 1400 to 1450.

155D. Renaissance Art in Fifteenth Century Italy 1450-1500
(4) MELLER
Prerequisite: Art History 155C.
Renaissance Art in Italy 1450-1500: developments in Tuscan architecture, sculpture, and painting. The diffusion of the new style in Italy, the emergence of new centers and regional schools, and the activity of L. B. Alberti, Verrocchio, Pollaiuolo, Mantegna, Piero della Francesca and Boticelli.

156A. Italy: High Renaissance
(4) MELLER
Prerequisite: upper-division standing.
Roman and Florentine painting, sculpture, and architecture from Leonardo to the sack of Rome.

156B. Sixteenth-Century Art in Northern Europe
(4) STAFF
Prerequisite: upper-division standing.
Painting, sculpture, graphic, and decorative arts in the Lowlands, Germany, France, and England. Dürer, Holbein, Grünewald, Bruegel, and the School of Fontainebleau will be covered. The impact of Italian Renaissance and mannerism of northern art.

156C. Mannerism
(4) MELLER
Prerequisite: upper-division standing.
Analysis of the pan-European style of mannerism in architecture, painting, and sculpture.

156D. Venetian Painting
(4) MELLER
Prerequisite: upper-division standing.
The evolution of Venetian painting from Jacopo Bellini to Jacopo Bassano.

156E. Michelangelo
(4) MELLER
Prerequisite: upper-division standing.
The study of the sculpture, painting, architecture, and drawings of Michelangelo.

156F. Leonardo da Vinci
(4) MELLER
Prerequisite: upper-division standing.
An examination of the development of the art of Leonardo da Vinci.

156G. Renaissance Architecture
(4) STAFF
Prerequisite: upper-division standing.
Architecture and urbanism in Italy in fifteenth and sixteenth centuries. Major monuments, architects, and ideas.

156H. Raphael
(4) MELLER
Prerequisite: upper-division standing.
Raphael's work in papal Rome seen in its social-historical context: (1) the development of Raphael's style; (2) new attitudes towards classical antiquity; (3) the phenomenon of teamwork controlled by a single artist, as opposed to the pattern of competing artists working together; (4) the acceptance and transformations of Raphael's heritage.

157A. Baroque Painting in Italy
(4) STAFF
Prerequisite: upper-division standing.

Baroque painting in Italy during the seventeenth and early eighteenth centuries.

157B. Italian Baroque Architecture and Sculpture
(4) STAFF
Prerequisite: upper-division standing.

A study of the works of the major architects and sculptors active in Italy from the beginning of the seventeenth century until the early eighteenth century.

157C. Northern Baroque Art
(4) STAFF
Prerequisite: upper-division standing.

Architecture, sculpture, and painting in Flanders, Holland, and France; seventeenth and early eighteenth centuries.

157D. Caravaggio and His Followers
(4) STAFF
Prerequisites: Art History 6C. Open only to upper-division art history majors.

Lectures on Caravaggio and the dissemination of his style; analysis of literary sources; discussion of problems of connoisseurship, attribution, iconography, and copyists; reconstruction of lost works.

157E. Renaissance and Baroque Architecture
(4) STAFF
Prerequisite: upper-division standing.

A survey of architectural creation and development in Europe, fifteenth to seventeenth centuries.

158A. Eighteenth-Century Art: 1685 to 1750
(4) STAFF
Prerequisite: upper-division standing.

Painting, sculpture, and architecture in Europe. Course will emphasize painting of France, England, and Venice. Will also emphasize the international character of rococo.

158B. Eighteenth-Century Art: 1750 to 1810
(4) STAFF
Prerequisite: upper-division standing.

Painting, sculpture, and architecture in Europe from 1760 to 1810. The course will emphasize the theories underlying these interrelated movements, e.g., primitivism, exoticism, historicism.

159A. Romanticism in Western Europe
(4) DORRA
Prerequisite: upper-division standing.

Goya, David, Ingres, Constable, Turner, Géricault, Delacroix, among others, will be discussed.

159B. Impressionism in France
(4) DORRA
Prerequisite: upper-division standing.

Manet, Monet, Renoir, Pisarro, Sisley, Cassatt, Morisot, among others, will be discussed.

159BB. Postimpressionism
(4) DORRA
Prerequisite: upper-division standing.

Seurat, van Gogh, Gauguin, Cézanne, Munch, Ensor, among others, will be discussed.

159C. Nineteenth-Century Architecture
(4) GEBHARD
Prerequisite: upper-division standing.

European and American planning and architecture from 1790 through 1914. Neorationalism to the beginning of the "Early Modern Movement." The course will treat the relationship between theory, structure, form, and practice during the nineteenth century.

159D. Victorian Art
(4) STAFF
Prerequisite: upper-division standing.

English art from 1800 to 1900. Primary emphasis will be on English painting and its relation to nineteenth-century continental art. Architecture and sculpture will also be considered.

159E. French Painting and Graphic Arts 1800 to 1875
(4) STAFF
Prerequisite: upper-division standing.

Leading painters from Ingres through Manet; the Academy; the rise of new graphic techniques and photography as art media and as popular imagery; interrelations of high and popular culture.

159F. Romanticism to New Objectivity: A Survey of German Art 1800 to 1933
(4) KELLER
Prerequisite: upper-division standing.

A survey of German romanticism, realism, impressionism, art nouveau, expressionism, surrealism, and other art movements. Special emphasis will be given to the historical and literary background of German art, as well as its impact on mainstream Western art.

159G. Nineteenth-Century Photography in Europe and the United States
(4) KELLER
Prerequisite: upper-division standing.

Themes, techniques, historical and aesthetic evolution of photography as an art form.

160A. Twentieth-Century Architecture
(4) GEBHARD
Prerequisite: upper-division standing.

European and American architecture from 1920 to the present. Expressionism, the international style, "Period" architecture, the Moderne, and the post-World War II movements. The relationship between architecture, design, painting, and the political and social scene during these decades.

160B. Fauvism and Cubism in France
(4) DORRA
Prerequisite: upper-division standing.

Matisse, Picasso, and their circles.

160C. Dada, Surrealism and Abstraction
(4) DORRA
Prerequisite: upper-division standing.

Duchamp, Picabia, Ernst, Arp, Miro, Tanguy, Dali, among others, and their impact on American developments, will be discussed. Constructionist and abstract developments will also be covered.

160D. Expressionism in Film, Art, and Theater
(4) STAFF
Prerequisite: upper-division standing. Same course as German 160D.

Treating the social theory, aesthetics, and artistic techniques of expressionism in art, literature, and film.

160H. Contemporary Photography
(4) KELLER
Prerequisite: upper-division standing.

American and European post-World War II photography considered as a living art form.

161A. American Art I
(4) ROBERTSON
Prerequisite: upper-division standing.

American art, including architecture, sculpture, and painting before 1900, seventeenth century through nineteenth century.

161B. American Art II
(4) ROBERTSON
Prerequisite: upper-division standing.

Survey of American art from the Armory Show to the present, with major emphasis on development in painting and sculpture after World War II.

161C. Contemporary Latin American Art
(4) FAVELA
Prerequisite: upper-division standing.

Trends in Latin American painting, sculpture, and graphic arts 1960s-present: neofigurative and abstract movements in Mexico (Nueva Presencia) and Argentina (Otra Figuracion); development of Argentine and Venezuelan kinetic art; constructivist and figurative trends in Colombia. Particular attention to Latin American artists working in New York and Paris.

161E. Modern Art of Mexico
(4) FAVELA
Prerequisite: upper-division standing.

A general survey of the main developments of nineteenth- and early twentieth-century Mexican art in its social context. Particular attention is given to the Mexican mural renaissance and the works of Posada, Rivera, Siquieros, Orozco, Tamayo, and Frida Kahlo.

161F. American Art of the Twentieth Century I: 1900 to 1939
(4) ROBERTSON
Prerequisite: upper-division standing.

Twentieth-century painting, sculpture, and architecture in the United States to the eve of World War II. The Eight, the Armory Show, American abstractionists and realists, government patronage, Americans in Europe, Mexican and European artists in the United States.

161G. American Art of the Twentieth Century II: World War II to Present
(4) ROBERTSON
Prerequisite: upper-division standing.

Recent twentieth-century painting, sculpture, and architecture in the United States. Abstract expressionism, color-field, pop, and new realist painting; pop and minimalist sculpture to earthworks, conceptual art, other recent trends.

161H. Major Applications of Photography I
(4) KELLER
Prerequisite: upper-division standing.

Photojournalism and the social documentary tradition in twentieth-century America.

161M. Modern Sculpture: American Sculpture Since the Second World War
(4) STAFF
Prerequisite: upper-division standing.

American sculpture in the postwar era.

161P. Contemporary Art in the World
(4) STAFF
Prerequisite: upper-division standing.

The course is devoted to the study of recent artistic developments, from pop to contemporary movements in painting, sculpture, and photography. Movements studied include minimal art, postminimalism, process art, conceptual art, earthworks, pluralism, neoexpressionism, and issues of postmodern art and criticism.

163B. Spanish Arts: Renaissance to Modern
(4) STAFF
Prerequisite: upper-division standing.

Fusion of local Spanish types with the Renaissance. Development of baroque, neoclassic, and the emergence of nineteenth- and twentieth-century forms. Studies in architecture, sculpture, painting, and the minor arts. Specialty dependent on faculty availability.

164A. The Landscape
(4) STAFF
Prerequisite: upper-division standing.

What Western European artists from the Renaissance to the present have seen in their physical environment (mainly rural but also urban), how they have recorded it, and what it means. Reading, field trips, discussion, papers.

164B. The History of Rome as a Modern City
(4) STAFF
Prerequisite: upper-division standing.

A study of the evolution of the urban structure of Rome from the Renaissance to the present. The emphasis will be on the city as an evolving formal entity rather than on individual buildings or on urban sociology.

164C. Museum Practices and Techniques
(4) ROBERTSON
Prerequisites: upper-division standing; consent of instructor. Limited enrollment.

Discussion of various aspects of museum work: management principles, the cataloguing and care of art objects, exhibitions and acquisitions, administrative procedures, museum architecture. Specialist lecturers and visits of museums and their facilities. (S)

164E. Analysis
(4) STAFF
Prerequisite: upper-division standing.

This course is strongly recommended as an elective for those students contemplating professional work in art history. The study of artistic form and visual perception as a tool for the art historian's study of style and expression.

164F. History of Printmaking, from Its Origins to 1800

(4) STAFF

Prerequisite: upper-division standing.

Survey of the evolution of printmaking in Europe, fifteenth through eighteenth century. Technique and imagery, major artists and stylistic movements. Special emphasis on painter-printmakers Dürer, Rembrandt, Canaletto, Hogarth.

164I. Classicism in Western Art and Culture

(4) WILLIAMS

Prerequisite: upper-division standing.

A survey of the ways in which the forms and values of classical antiquity have been appropriated by later phases of Western Civilization.

165A. Theories of Architecture

(4) GEBHARD

Prerequisite: upper-division standing.

A historical analysis of the relationship between architectural theories and architecture and urban planning from the fifteenth through the twentieth century.

165B. Islamic Architecture

(4) GEBHARD

Prerequisite: upper-division standing.

Islamic architecture of North Africa; of the Near and the Middle East from the eighth through the eighteenth century.

165C. An Architectural History of Urban Design

(4) STAFF

Prerequisite: upper-division standing.

A historical introduction to urban planning and the city in history from ancient to modern times. Course will be taught from the viewpoint of architectural history.

165D. Architecture and City Planning in California and the Southwest (1600 to the Present)

(4) GEBHARD

Prerequisite: upper-division standing.

An analysis of urban and rural planning in the American Southwest from the founding of Santa Fe in 1609 to the present-day environs of the urban areas of Albuquerque, Phoenix, Los Angeles, and San Francisco. A study will be made of the interrelationship of the environment, technology, and imagery, from the Hispanic decades of the seventeenth century through the early nineteenth century to the early 1980s. Field trips will be conducted to important sites and buildings located in Southern California.

165E. Historic Preservation and Architecture

(4) GEBHARD

Prerequisite: upper-division standing.

This course will study the relationship between architectural preservation and imagery from the late Hellenistic Age to the present. The major emphasis will be placed on the years from the mid-1900s to the present. Current approaches to preservation and imagery will be compared and contrasted with those of the past.

166. Modern Design

(4) ARMI

Prerequisite: upper-division standing.

A survey of twentieth-century commercial arts, including cars, fashion, furniture, graphic arts, industrial design, and architecture.

170A. History of Photography

(4) KELLER

Prerequisite: upper-division standing.

A critical survey of nineteenth and twentieth-century photography. The medium is studied in cultural context with emphasis on images and the visions which produced them. We will also study the relation between photography and art movements (impressionism, surrealism, photorealism, etc.).

170B. History of Landscape/Cityscape Photography

(4) KELLER

Prerequisite: upper-division standing.

Course emphasizes adventurous camera explorations of untouched natural scenery from the Rocky Mountains to Arctic glaciers and African deserts (nineteenth century); and systematic documentation of the known and inhabited world, especially the visual sign language of urban environments (twentieth century).

170C. Social Documentary Photography: A Historical Survey

(4) KELLER

Prerequisite: upper-division standing.

The course traces the interrelationship between photographic art history and social history. Topics include American Indian tribes, metropolitan slums, Dust Bowl farm conditions, and present-day minorities such as Blacks and women.

170D. American Ethnic Groups: A Photographic History

(4) KELLER

Prerequisite: upper-division standing

A cultural and social history of Asian-Americans, Chicanos, American Indians and Afro-Americans as mirrored in the legacy of documentary photography.

175A. Mediterranean Cities

(4) KHOURY

Prerequisite: upper-division standing

An exploration of the most important medieval cities of the Mediterranean world, their urban forms, layout, architecture, and physical patterns. Venice, Cairo, and Baghdad will be among the cities discussed in this course.

175B Masterpieces of Islamic Art & Architecture: 650-1250

(4) KHOURY

Prerequisite: upper-division standing.

This course highlights specific objects and buildings as a means toward exploring their types, media, and problems. Among the objects will be works on paper, ceramics, and metalware.

175C. Architecture and Ideology from Constantine to Suleyman the Magnificent

(4) KHOURY

Prerequisite: upper-division standing.

Byzantine and Islamic architecture.

180. Buddhist Art

(4) STURMAN

Prerequisite: upper-division standing.

The development of Buddhist art and architecture as a result of changing religious practices and concepts; the influence of regional and national styles as Buddhism spread from India south and southeastward as far as Java and north and eastward across Central Asia as far as Japan.

181. The Art of India

(4) STAFF

Prerequisites: Art History 6D or permission of instructor; upper-division standing.

The rise and development of native styles in architecture, sculpture, and painting, with emphasis on Hindu and Buddhist problems.

182A. Early Chinese Art

(4) STURMAN

Prerequisites: Art History 6D or consent of instructor; upper-division standing.

Native traditions and foreign influences in the development of Chinese art from prehistoric times through the ninth century.

182B. Chinese Painting

(4) STURMAN

Prerequisites: Art History 6D or consent of instructor; upper-division standing.

Chinese art from the tenth to the eighteenth century, with emphasis on painting.

182C. The Art of Chinese Landscape

(4) STURMAN

Prerequisites: Art History 6D; upper-division standing or consent of instructor.

Chinese approaches to landscape as subject matter in art, with a focus on gardens and painting.

183A. The Art of Japan

(4) STURMAN

Prerequisites: Art History 6D or consent of instructor; upper-division standing.

Native traditions and foreign influences in the development of Japanese architecture, sculpture, painting, and minor arts.

183B. Japanese Painting

(4) STURMAN

Prerequisites: Art History 6D or consent of instructor; upper-division standing.

This course will trace the changing and entwined traditions of Japanese painting, those rooted in native concepts and practices and those derived from China.

183C. Ukiyo-e: Pictures of the Floating World

(4) STURMAN

Prerequisites: Art History 6D; upper-division standing or consent of instructor.

Japanese wood-block and paintings of the eighteenth and nineteenth centuries, with an emphasis on cultural perspectives.

193. University Art Museum Internship

(4) STAFF

Prerequisites: upper-division standing; 3.0 grade-point average; consent of instructor. Not for credit in the major.

Under supervision of art history faculty, students will carry out a specific Art Museum internship project connected with exhibition preparation or design, cataloging, collection, or other professional aspects of museum work. Ten hour/week internship, plus evaluation session. Written report required.

194. Special Group Studies

(2-4) STAFF

Prerequisites: qualified upper-division students, and consent of instructor and chair of department. No more than 4 units per quarter and 12 units total may be taken in lieu of major requirements. Limited to groups of 3-12 persons.

A means of making special studies or meeting special curricular problems.

195. Undergraduate Seminar: Reading Medieval Art

(4) STAFF

Prerequisite: upper-division standing. Recommended preparation: Art History 6B.

A seminar workshop in learning how to read the symbolism on which medieval art is based. Topics include the symbol as self-contained ideograph; integrated iconographic systems; and the manipulation of artistic form to heighten or alter symbolic meaning.

195B. Undergraduate Colloquium on Modern Design

(4) ARMI

Prerequisite: Art History 166 or consent of instructor.

Students give oral reports and write a paper on a topic in the history of twentieth-century commercial design. A typical colloquium covers industrial design, graphic arts, fashion and architecture, for example, in America after WWII.

199. Independent Studies

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in art history. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Consent of instructor and chair of the department required.

Advanced individual problems.

199RA. Undergraduate Research Assistant

(1-5) STAFF

Prerequisites: students must have: (1) upper-division standing; (2) consent of instructor and faculty chair; (3) 3.0 cumulative grade-point average; and (4) must have completed two upper-division courses in Art History.

GRADUATE COURSES

250A. Methods and Techniques in Art History Research

(4) STAFF

Prerequisite: graduate standing.

Reading and a series of discussions and research problems designed to give the student understanding of the different approaches to historical study of works of art.

250B. Connoisseurship
(4) STAFF

Prerequisite: graduate standing.

Reading, discussion, and practical experience in qualitative analysis of works of art, with particular emphasis on drawings, prints, and medals.

250C. Seminar: History of Printmaking
(4) STAFF

Prerequisites: Art History 168A or equivalent, and graduate standing.

The seminar deals with outstanding printmakers whose work can be seen in the Santa Barbara area. Relevant art historical issues are explored in addition to problems of print connoisseurship.

250D. Early Modern (Renaissance and Baroque) Art Theory
(4) WILLIAMS

Prerequisite: graduate standing.

Special problems in Renaissance and Baroque art theory. French, Spanish, Dutch, and Italian art and architecture, issues and sources.

250E. Topics in Art Theory
(4) STAFF

Prerequisite: graduate standing.

Research on a theme or period in the history of art theory and criticism.

251B. Seminar on African Arts in Context
(4) COLE

Prerequisite: graduate standing.

Special research in African art.

251C-D. Seminar in Nonwestern Arts
(4-4) COLE

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter. Specific course focus announced before course begins.

Selected topics in African, Oceanic, and/or American Indian arts.

252A. Seminar in Ancient Art
(4) DEL CHIARO

Prerequisite: graduate standing.

Special research in ancient art.

252B. Seminar in Roman Art
(4) YEGÜL

Prerequisites: graduate standing or senior art history majors with consent of instructor.

Special research in Roman and late antique architecture.

252C. Theory and Historiography of Roman Art
(4) YEGÜL

Prerequisites: graduate standing or senior art history majors with instructor's consent.

Theory, method, and historiography of Roman and late antique art. Emphasis on special problems of current and historical importance. General consideration of methodology in art history.

252D-E. Seminar in Roman Architecture
(4) YEGÜL

Prerequisite: graduate standing. A two-quarter in-progress sequence seminar with grades for both quarters issued upon completion of the final quarter.

Special research in Roman architecture of Italy and the provinces.

253A. Seminar in Medieval Art
(4) AYRES

Prerequisite: graduate standing

Special research in medieval art.

253B-C. Seminar in Romanesque-Gothic Art
(4-4) AYRES

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in Mosan Romanesque and Gothic art.

253D. Seminar in Medieval Architecture
(4) STAFF

Prerequisite: graduate standing.

Special research in Romanesque and/or Gothic architecture.

253E-F. Seminar in Romanesque Architecture and Sculpture
(4-4) ARMI

A continuous seminar. Individual quarters may not be taken separately for credit. Grade given at the end of the second quarter.

A two quarter seminar on major topics and problems in the monumental arts of the eleventh and twelfth centuries in Europe.

253G. Seminar: The Origins of Gothic
(4) ARMI

A seminar on the major topics and problems in first and second generation Gothic sculpture and architecture in the Ile-de-France.

254. Seminar in Pre-Columbian/Colonial Art
(4) PETERSON

Prerequisite: graduate standing.

Special research in pre-Columbian and colonial Latin American art topics.

255A-B. Seminar in Renaissance Art
(4-4) MELLER

Prerequisite: graduate standing. Continuous two-quarter seminar. Individual quarters may not be taken separately. Grade given at end of second quarter.

Special research in Renaissance art.

255C. Seminar in Renaissance Art
(4) MELLER

Prerequisite: graduate standing.

Introduction to the research method: problems of the figurative and decorative arts of the Renaissance period.

255D. Art of the Renaissance in Northern Europe
(4) STAFF

Prerequisite: graduate standing.

Special research in northern Renaissance figurative arts of the fifteenth and/or sixteenth centuries.

255E-F. Seminar in Northern Renaissance Art
(4-4) STAFF

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit.

Research on special problems in northern Renaissance art.

257A. Seminar in Baroque Art
(4) STAFF

Prerequisite: graduate standing.

Special research in baroque art.

257B-C. Seminar in Baroque Art and Drawings
(4-4) STAFF

Prerequisite: graduate standing.

Study of original drawings of the sixteenth, seventeenth, and eighteenth centuries in relation to painting, sculpture, and architecture of the baroque era, with emphasis on Italy. Practice in research, cataloguing, and connoisseurship will sometimes result in an exhibition catalogue.

257D-E. Seminar in Baroque Art
(4-4) STAFF

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Studies in baroque sculpture, architecture, painting, or graphic arts; a different subject each year.

258A. Seminar in Eighteenth-Century Art
(4) ROBERTSON

Prerequisite: graduate standing.

Special research in eighteenth-century art with special emphasis on painting and prints.

258B-C. Seminar in Eighteenth-Century Art
(4-4) ROBERTSON

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in eighteenth-century art.

259AA. Seminar in Nineteenth-Century Art (Impressionism and Postimpressionism)
(4) DORRA

Prerequisite: graduate standing.

A one-quarter special research seminar in nineteenth-century art.

259A-B. Seminar in Nineteenth-Century Art (Impressionism and Postimpressionism)
(4-4) DORRA

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in nineteenth-century art.

259C. Seminar in Romanticism and Realism (1800 to 1860)
(4) STAFF

Prerequisite: graduate standing.

Topics in French art, 1800 to the beginnings of impressionism. Painting and graphic art; high and popular culture.

259D. Seminar in Victorian Art
(4) STAFF

Prerequisite: graduate standing.

Special research in English art, 1830 to 1900.

259E-F. Seminar in Romanticism and Realism (1800 to 1860)
(4-4) STAFF

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in European painting and graphic arts, especially in France, 1800-1860.

260A-B. Seminar in European Art of the Twentieth Century
(4-4) DORRA

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in twentieth-century art.

260D. Seminar in European Art of the Twentieth Century
(4) DORRA

Prerequisite: graduate standing.

Special research in twentieth-century art.

261A. Eighteenth-Nineteenth-Century American Art
(4) ROBERTSON

Prerequisite: graduate standing.

Special research in American painting and sculpture, 1750 to 1900.

261B. Twentieth-Century American Art
(4) ROBERTSON

Prerequisite: graduate standing.

Topics in American painting and sculpture, 1940-1970: history and criticism of abstract expressionism, pop and minimalism, photo-realism, beginnings of poststudio art.

261C-D. Seminar Nineteenth-Century American Art
(4-4) ROBERTSON

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in nineteenth-century American art.

261E. Seminar in History of Photography
(4) KELLER

Prerequisite: graduate standing.

Special problems in the history of photography.

261G. Seminar in Feminist Theory
(4) STAFF

Prerequisite: graduate standing.

Special research in feminist and theoretical issues.

262A-B. Seminar in Latin American Art
(4-4) FAVELA

Prerequisite: graduate standing. A continuous two-quarter seminar. Individual quarters may not be taken separately for credit. Grade given at end of second quarter.

Special research in the art and architecture of Latin America from the conquest to the present.

262C. Seminar in Modern Latin American Art

(4) FAVELA

Prerequisite: graduate standing.

The main developments of modernism in late nineteenth and early twentieth-century Latin America: late impressionism and symbolism and avant-garde movements in Mexico, Brazil, and Argentina. Frequent reference will be made to European trends and their impact on modern Latin American art.

262D Seminar in Latin American Art

(4) FAVELA

Prerequistes: A continuous two quarter Seminar. May not be taken seperately for credit. Grade given at end of second quarter.

265. Seminar in Architectural History

(4) GEBHARD, YEGÜL

Prerequisite: graduate standing

Special research in the history of architecture.

266. Seminar in Modern Architecture

(4) GEBHARD, YEGÜL

Prerequisite: graduate standing

Special research on problems of nineteenth- and twentieth-century European or American architecture.

275A Seminar in Islamic Art and Architecture

(4) KHOURY

Prerequisites: Graduate standing.

Special research in Islamic art and architecture.

281A. Seminar on Indic Art

(4) STAFF

Prerequisite: graduate standing.

Research into iconographic and stylistic problems in the arts of South Asia.

281B-C. Seminar on Arts of South Asia

(4-4) STAFF

Prerequisite: graduate standing. Continuous two-quarter seminar.

Special research on indic art, possibly including relationships with cultures of Central and/or Southeast Asia.

282A. Seminar on East Asian Art

(4) STURMAN

Prerequisite: graduate standing.

Research on select problems on the arts of China, Japan, or Korea.

282B-C. Seminar on Chinese/Japanese Art

(4-4) STURMAN

Prerequisite: graduate standing. Continuous two-quarter seminar.

Special research on problems of the Chinese/Japanese arts and/or major architecture.

293A-B-C. Methods of Research

(4-4-4) WILLIAMS

The course focuses on methodological approaches employed by art historians. Selected readings, explanations, and demonstration of methods, including archaeological analysis, codicology, connoisseurship, ideology and social context, architectural theory, and cross-cultural modes.

294. Museum Practices

(4) ROBERTSON

Prerequisite: graduate standing or permission of instructor. May be repeated.

Methods in museum practice. Content will vary according to museum program and art exhibition involved. (S)

295AA-ZZ. Seminar: Advanced Readings in Art History

(1-4) STAFF

Prerequisites: graduate standing; consent of instructor; department approval.

Source readings for graduate students.

500. Apprentice Teaching

(1-4) STAFF

Prerequisites: graduate standing; consent of instructor; department approval. No unit credit allowed toward degree.

For teaching assistants, course includes directed readings, instruction in use of visual aids, pedagogical techniques, design of materials for discussion sections, and methodological analyses. Attendance at lectures in the course to which the teaching assistant is assigned is a requirement.

501. Critical Review Methods

(5) STAFF

Prerequisites: graduate standing. Department approval. No unit credit allowed toward degree.

In conjunction with the departmental guest lecture program, graduate students meet after each lecture with a faculty specialist as discussant to critique and review research issues and new contributions proposed by visiting lecturers.

502. Graduate Symposium in Art History

(1-4) STAFF

Prerequisites: graduate standing; department approval. No unit credit allowed toward degree.

Under the supervision of the graduate adviser and individual faculty advisers, directed study in presentation techniques, bibliographical and publication methods, and professional outreach.

550. Tools for Art Historical Research

(1-4) STAFF

Prerequisites: graduate standing; department approval. No credit allowed toward degree.

When undergraduate courses in other departments are needed to build a base for graduate research, a student may be required to audit a course in another department to fulfill requirements in the art history program.

595. Group Studies

(1-12) STAFF

Prerequisites: graduate standing; consent of instructor and department approval.

Critical review of research in selected fields.

596. Reading and Research in Art History

(2-6) STAFF

Prerequisites: graduate standing; consent of instructor and department approval.

Individual tutorial. A written proposal for each tutorial must be approved by the department chair.

597D. Individual Study

(1-12) STAFF

Prerequisites: graduate standing; consent of graduate adviser; department approval. Limited to 12 units per quarter and 24 units total. No unit credit allowed toward degree.

Individual study for examination for the Ph.D. degree.

597MC. Directed Reading and Research in Art History

(1-12) STAFF

Prerequisites: graduate standing; consent of graduate adviser; department approval. For Plan II students only. No unit credit allowed toward degree.

Readings and study towards comprehensive examination for M.A.

598T. Master's Thesis Research and Preparation

(1-12) STAFF

Prerequisites: graduate standing; consent of graduate adviser; department approval. No credit allowed toward degree. For Plan I students only.

Research underlying the thesis; writing the thesis.

599D. Ph.D. Dissertation Preparation

(1-12) STAFF

Prerequisites: graduate standing; consent of graduate adviser; department approval.

Terminal preparation of the dissertation.

Art Studio

Department of Art Studio, Division of Humanities and Fine Arts, Arts Building 1316; Telephone (805) 893-3138

Department Chair: Richard Bolton

Faculty

Michael A. Arntz, M.A., California State University, Long Beach, Professor *(ceramic sculpture)*

Ciel Bergman, aka **Cheryl O. Bowers**, M.F.A., San Francisco Art Institute, Professor *(painting and drawing)*

Richard Bolton, M.F.A., Cranbrook Academy of Art, Associate Professor *(photo, new genres)*

Gary H. Brown, M.F.A., University of Wisconsin, Professor *(painting and drawing)*

Irma Cavat, Professor Emerita

Howard C. Fenton, M.A., UC Los Angeles, Professor Emeritus

Lawrence (Kip) Fulbeck, M.F.A., UC San Diego, Assistant Professor *(visual arts)*

Sheldon A. Kaganoff, M.F.A., Claremont Graduate School, Associate Professor *(ceramics)*

Bruce S. McCurdy, M.F.A., Yale University, Professor Emeritus

William A. Rohrbach, M.A., UC Berkeley, Professor Emeritus

Richard Ross, M.F.A., University of Florida, Professor *(photography)*

James D. Smith, Ph.D., University of Oregon, Professor *(painting and drawing, credential program)*

Guy Williams, Professor Emeritus

Kim Teru Yasuda, M.F.A., University of Southern California, Assistant Professor *(sculpture)*

The Department of Art offers a B.A. degree in art and a graduate program leading to the M.F.A. degree. The undergraduate program is designed to provide the student with thorough and comprehensive training, as well as an understanding of art as a humanistic activity, and to provide students who wish to become practicing artists with a foundation which will prepare them for graduate work and professional school.

Within the art major, students may choose to emphasize painting, drawing, print-making, photography, sculpture, or ceramics. Student advising is available in the department through the undergraduate adviser and the graduate adviser.

Students with a bachelor's degree in art are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education. Students who plan to teach in the public schools are advised to choose a wide range of courses in art studio. Undergraduate art majors wishing to be teachers must meet the requirements of the UCSB state-approved waiver program or pass the National Teacher Examination (N.T.E.) competency standard in art. Evidence of a passing score on CBEST is also required. (See details in the *Graduate School of Education Announcement.*) The applicant may be required to attend an interview and present a portfolio of signed art work as part of the admission process.

Undergraduate Program

Bachelor of Arts—Art

Preparation for the major. Thirty-seven units in lower-division courses including Art Studio 5A-B-C (9 units); Art Studio 10, 12, 14, 16, 18, or 19 (4 courses, 12 units); Art History 6 series (2 courses, 8 units); and History (2 courses, 8 units).

Upper-division major. Forty-four units in upper-division courses (including 32 units selected from upper-division art studio courses) and 12 units of art history, up to 4 units of which may be in lower-division courses. Art studio majors may take any 8 units of art history requirements on a passed/not passed basis.

Students who plan to attend graduate school are advised to complete a minimum of 16 units within a given area of interest (to include painting, sculpture, printmaking, photography, or ceramics) and 4 additional units of upper-division art history.

Honors Program

The honors program is designed to provide support to honors projects. A limited number of applicants are accepted for the full-year program, with preference going to qualified seniors. Eligible students should apply for admission through the department adviser. Requirements for entry into the program include the submission of a strong portfolio for faculty review, a grade-point average of 3.5 or better in the major, a 3.0 average overall, and the completion of 90 units or more. To meet the faculty's expectations, the student must also have earned a fine record in previous coursework in the department. The application is due in the spring quarter. Students selected begin their honors projects in the fall quarter. Students participating in the program complete a minimum of 12 196HA-HB-HC honors units. A group exhibition of completed projects is required. Students participating in the program are also encouraged to apply for the President's Undergraduate Fellowship Awards. Details are available from the department office.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Fine Arts—Art Studio

Admission

In addition to fulfilling the general requirements for admission to graduate status, each applicant to the graduate program in art must have earned a Bachelor of Arts in art, or its equivalent, with an overall 3.0 grade-point average. The applicant must demonstrate outstanding accomplishment as a student artist by submitting a slide portfolio of 20 slides maximum in chronological order with any additional supportive materials, e.g., 1/2 inch video tape, etc. Applications are reviewed by the full studio faculty, and admission is contingent upon approval of a majority of the tenured studio faculty. Applicants will be ranked and admitted depending on available space.

Instructions for preparing the slide portfolio, as well as general information about the graduate program, are available from the department graduate coordinator. Admission is limited to fall quarter only. By January 31, the slide portfolio (including 12-20 slides) and completed application for admission must arrive at the Department of Art Studio. Students interested in fellowships and teaching assistantships must submit the 20-slide portfolio and must check the "Financial Awards Application" box on the application. (Please include a self-addressed stamped envelope for return of the slides.) All applicants must take the Graduate Record Exam. Foreign students must also pass the TOEFL examination with a score of 550 or higher.

Degree Requirements

One of six emphases can be selected: ceramics, intermedia (new forms), painting, photography, printmaking, or sculpture. Seventy-two quarter-units are required, a minimum of 40 of which must be in the graduate studio series (240's, 591's, and 593MS); 12 units in art history (Art Studio 242, 595, or Art History 295, 596), 12 units of graduate seminar (244, 245, or 246), and 8 units of electives. Graduate students are expected to complete four to five hours of work per week for each unit. Two years of residency are required for the M.F.A. degree.

There will be a first-year review by the full faculty during the first week in May. Students who have successfully completed this review will be advanced to candidacy. Following the first review, a thesis committee will be formed for each candidate. Both the student and the faculty will participate in the process of forming the thesis committee.

At the beginning of the second year, the student will meet with the thesis committee to determine the nature of the thesis project. The project will consist of a group of related works in the student's emphasis and will be presented in exhibition in the University Art Museum. It will be accompanied by a thesis document containing slides of the project and a written essay which addresses the development, content, and issues of the thesis work. This document will be placed on file permanently in the Arts Library. The thesis committee will review the student's progress at the end of the second quarter or at the time of the M.F.A. exhibition. The degree will be awarded after successful review of the work.

Art Studio Courses

Note: A maximum of three art studio courses may be taken per quarter.

LOWER DIVISION

The department recommends the Art Studio 5A-B-C series be taken at the freshman level. Art Studio courses 10, 12, 14, 16, 18, and 19 may be repeated for credit up to 6 units. The department requires a repeat from a different instructor. Exceptions require consent of instructor.

4. The Human Figure—Drawing Course for Nonmajors
(3) STAFF

Drawing sessions with models, lectures on subject matter, style, techniques, media. Optional choice additional activities include: small group sessions; drawing; anatomy study workshops; Friday drawing workshop; masters drawing copy study; recommended reading; gallery visits; related lectures, films, TV, etc.

5A. Visual Fundamentals
(3) STAFF
Open to nonmajors.
Two-dimensional fundamentals of composition, form, and proportion. Introduction to drawing and space including line, tone, volume, perspective, surface, and texture. Basic exposure to materials and techniques.

5B. Visual Fundamentals
(3) STAFF
Open to nonmajors.

Fundamentals of color theory including hue, value, intensity, and temperature. The relationship of color to form and space will be explored. Basic exposure to materials and techniques.

5C. Visual Fundamentals
(3) STAFF
Open to nonmajors.

Three-dimensional fundamentals of open and closed space, surface manipulation of simple forms, and basic exposure to materials and techniques.

9. Visual Art as Communication
(3) MCCURDY

A survey of development of techniques used to communicate nontemporal visual information, including fine art and popular imagery. Understanding the relationship of paper, books, printing, and photography, and its impact on culture.

10. Lower-Division Painting
(3) STAFF
Recommended: Art Studio 5B. Open to nonmajors.

Introductory problems in various painting media such as watercolor, acrylic, and oils. Fundamentals of color theory and composition. Techniques on various supports, grounds, and paint application.

12. Lower-Division Sculpture
(3) STAFF
Open to nonmajors.

An introduction to sculptural problems and techniques dealing with traditional spatial concepts. Emphasis will be on a variety of sculptural materials used to realize these concepts.

14. Lower-Division Printmaking
(3) MCCURDY
Recommended: Art Studio 5A. Open to nonmajors.

Introduction to printmaking; emphasis on technical fundamentals and conceptual aspects of graphic arts. Processes of intaglio, lithographic, and screen printing will be emphasized.

15. Studio Process (beginning ceramics) Creativity/Awareness
(3) KAGANOFF

A "beginners" experience of studio with emphasis on process rather than goal. Focus on clay as medium of expression, throwing, and hand-building. Resource material to include sensory awareness, Gestalt Psychology, Zen-Buddhism, and other contemporary body/mind disciplines.

16. Lower-Division Ceramics
(3) ARNTZ, KAGANOFF
Open to nonmajors.

Introduction to clay as a medium with emphasis on form. Lectures on clays, clay bodies, glazes, and a general survey of ceramics history. Techniques of throwing, handbuilding, glazing, and firing will be covered.

18. Lower-Division Drawing
(3) STAFF
Recommended: Art Studio 5A. Open to nonmajors.

Introductory problems in two-dimensional representation with various drawing media, including structural and symbolic implications of human form. Emphasis on organization of vision and thought in terms of drawing techniques and materials.

19. Lower-Division Photography
(3) ROSS
Open to nonmajors. May be repeated once for credit, but with a different instructor.

Exploration of photography as a means of artistic expression and showing its relationship to other art media. (To be offered on an irregular basis.)

20. Language of Photography
(3) STAFF

The course will survey the interdisciplinary application of photography, stressing its usage as a visual language. It will also offer those with a general interest in photography a survey of more specific areas of usage and possible future study.

22. Visual Thinking and Application of Computer Images
(3) STAFF
May be repeated once for credit.

Computer use directed towards visual application. A class stressing the use of computers for visually oriented people and the use of visual thinking for computer oriented people. Experience in either area is welcome but not a prerequisite.

UPPER DIVISION

The specific concepts, techniques, and philosophy of teaching in art studio courses 100 through 120 will vary according to the individual instructor A syllabus of each instructor's courses will be available in the department office.

100. Upper-Division Painting
(4) STAFF
Prerequisite: 3 units of Art Studio 10. Designed for majors. May be repeated more than once in a quarter, but must be from a different instructor. No cumulative limit.

Problems emphasizing development of personal expression in painting in various media. Consideration given to historical painting as well as trends of contemporary painting. The relationship of drawing to painting will be considered.

101. Special Studies in Painting
(4) STAFF
Prerequisite: at least one quarter of Art Studio 100. May be repeated for credit. No cumulative limit.

Special studies in painting utilizing particular faculty interests and/or special departmental facilities. Exact nature of course will be specified in the Department of Art Studio syllabus.

105. Upper-Division Sculpture
(4) STAFF
Prerequisite: 3 units of Art Studio 12. May be repeated more than once in a quarter, but must be from a different instructor. No cumulative limit.

First year: more complex spatial problems; working with a limited number of sculptural materials, with emphasis on competency in handling two of these materials.
Second year: advanced work in sculptural media; concentration on development of personal sculptural ideas.

106. Special Studies in Sculpture
(4) STAFF
Prerequisite: at least one quarter of Art Studio 105. May be repeated for credit. No cumulative limit.

Special studies in sculpture utilizing particular faculty interest and/or special departmental facilities. Exact nature of courses will be specified in the Department of Art Studio syllabus.

110. Upper-Division Printmaking
(4) MCCURDY
Prerequisite: 3 units of Art Studio 14. May be repeated more than once in a quarter, but must be from a different instructor. No cumulative limit.

Problems in printmaking including advanced technical processes and color in intaglio and lithographic printing. Emphasis on developing individual competency, both technically and conceptually, through assigned projects and supervised independent study.

111. Special Studies in Printmaking
(4) MCCURDY
Prerequisite: at least one quarter of Art Studio 110. May be repeated for credit. No cumulative limit.

Advanced-level course dealing with a specific faculty interest or special departmental facility in the printmaking area. Exact course content specified in the Department of Art Studio syllabus.

115. Upper-Division Ceramics
(4) ARNTZ, KAGANOFF
Prerequisite: 3 units of Art Studio 16. May be repeated more than once in a quarter, but must be from a different instructor. No cumulative limit.

Investigation at an individual level of raku, low fire, salt, and high fire range. Lectures and problems relating to technical aspects of ceramic chemistry. Personal control of form from clay body, fabrication, glazing, to and including firing.

116. Special Studies in Ceramics
(4) ARNTZ, KAGANOFF
Prerequisite: at least one quarter of Art Studio 115. May be repeated for credit. No cumulative limit.

Advanced-level course dealing with a specific faculty interest or a special departmental facility in the ceramics area. Exact course content specified in the Department of Art Studio syllabus.

117. Special Studies in Drawing
(4) STAFF
Prerequisites: at least one quarter of Art Studio 118 and consent of instructor. May be repeated for credit to a maximum of 12 units.

Special studies in drawing utilizing particular faculty interests and/or special departmental facilities.

118. Upper-Division Drawing
(4) STAFF
Prerequisite: 3 units of Art Studio 18; designed for majors. May be repeated more than once in a quarter, but must be from a different instructor. No cumulative limit.

Problems emphasizing development of personal expression in drawing, utilizing various media. Consideration given to historical as well as contemporary trends of drawing.

119. Media for Visual Communication
(4) SMITH
Prerequisite: consent of instructor. May be repeated for credit.

A laboratory course stressing experimentation, creation, and use of multi-image projection materials.

120. Upper-Division Photography
(4) STAFF
Prerequisite: at least one quarter of Art Studio 19 or consent of instructor. May be repeated for credit. No cumulative limit.

Exploring photography as artistic expression and its relationship to other art media. To be offered on an irregular basis.

122. Visual Thinking and Application of Computer Images
(4) STAFF
Prerequisite: Art Studio 22. May be repeated for credit. No cumulative limit.

Exploring the role of the computer in the conceptualization, visualization, and creation of art. Emphasis will be on multiples, sequential imagery, animation, and color as facilities permit.

125. American Art of the Past Two Decades
(4) STAFF
Prerequisite: upper-division or graduate class standing.

This class will cover developments in American art since 1950 from an artist's point of view, with emphasis on the last decade. Investigation of recent art movements including minimal, process, body conceptual, postminimal, and performance.

130. Visual Arts As Culture
(4) STAFF
Prerequisites: upper-division standing and consent of instructor. May be repeated for credit to a maximum of 8 units.

This studio course focuses on increased understanding of art within cultural contexts. Students will have direct personal experiences in four components of the visual arts: aesthetic domain, art heritage, critical judgment, creative expression (production).

192. Internship in Art Studio
(1-4) STAFF
Prerequisites: upper-division standing and a 3.0 overall grade-point average and consent of department. Units are calculated on a three hours per work of week equaling 1 unit. May be repeated to a maximum of 8 units; 4 units maximum may be applied toward major.

Opportunities in applied learning related to visual art through local business, government, or institutional organizations, working under faculty direction with periodic and final written reports and supporting portfolio.

194. Special Group Studies
(2-4) STAFF
Prerequisites: qualified upper-division students, and consent of instructor and chair of department. May be repeated for credit a variable number of times.

A means of making special studies or meeting special curricular problems.

196HA. Upper-Division Honors Studio
(4) STAFF
Prerequisites: open to qualified art studio majors with at least a 3.5 grade-point average in the major and at least a 3.0 grade-point average overall; upper-division standing; acceptance into department's honors program; department petition required. May be repeated for credit. No cumulative limit.

Independent study, individual problems. This course is to be followed by Art Studio 196HB and 196HC. Required to complete the honors program: the three course sequence followed by a public exhibition of work accomplished.

196HB. Upper-Division Honors Studio
(4) STAFF
Prerequisites: Art Studio 196HA; department petition required. May be repeated for credit. No cumulative limit.

Independent study, individual problems. This course is to be followed by Art Studio 196HC. Required to complete the honors program: the three course sequence followed by a public exhibition of work accomplished.

196HC. Upper-Division Honors Studio
(4) STAFF
Prerequisites: Art Studio 196HB; department petition required. May be repeated for credit. No cumulative limit.

Independent study, individual problems. Required to complete the honors program. This course is to be followed by a public exhibition of work accomplished in the three course sequence.

199. Independent Studies
(1-S) STAFF
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in art studio. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Consent of instructor and chair of department required.

Advanced individual problems.

199RA. Independent Research Assistance in Art Studio
(1-5) STAFF
Prerequisites: upper-division studesnt only; instructor and department approval required prior to registration. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

240C. Graduate Seminar in Ceramics
(4) ARNTZ, KAGANOFF
Prerequisites: graduate standing and consent of instructor.

Special problems in ceramics.

240D. Graduate Studio in Drawing
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

Special problems in drawing.

240IM. Graduate Studio in Intermedia (New Forms)
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

Focus on discussion of work regardless of media.

240P. Graduate Studio in Painting
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

Problems in painting.

240PH. Graduate Studio in Photography
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

Problems in photography.

240PM. Graduate Seminar in Printmaking
(4) MCCURDY
Prerequisites: graduate standing and consent of instructor.

Special problems in printmaking expression and techniques.

240S. Graduate Seminar in Sculpture
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

Problems in various sculptural media.

242. Reading and Research in Art Studio
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

Readings and research in topics of a historical and contemporary nature.

244. Graduate Seminar in Critique
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

A seminar focusing on criticism of current studio work.

245. Studio Graduate Seminar
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

A general seminar for studio graduate students. Content will vary depending on instructor.

246. Professionalism
(4) STAFF
Prerequisite: second-year graduate student.

Seminar will address problems of professionalism and survival for graduating M.F.A. students. Portfolios, resumes, commercial galleries, alternate spaces, sales and commission policies, studio spaces, art world politics, taxes, etc., will be discussed by faculty and guest speakers.

260. Graduate Seminar in Visual Arts
(4) STAFF
Prerequisites: graduate standing and consent of instructor.

A means of making special studies and meeting special curricular problems.

290. Seminar in Curriculum of Instructional Procedures and Materials Used in the Teaching of Art in the Schools
(4) SMITH
Prerequisites: graduate standing and consent of instructor.

Reading and discussion of the knowledge and understanding of art teaching with emphasis on the application of techniques learned.

295. Seminar in Art Methods for the Elementary School
(4) SMITH
Prerequisites: graduate standing and consent of instructor.

Procedures used in the teaching of art in the elementary school, including the integration of art and humanities.

501. Teaching Assistant Practicum
(1-4) STAFF
Prerequisite: graduate standing.

Practice of teaching art.

591A. Directed Study in Visual Arts Education
(2-12) SMITH
Prerequisites: consent of instructor and graduate standing.

Individual tutorial.

591C. Directed Study for the M.F.A. in Ceramics
(2-12) ARNTZ, KAGANOFF
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

591DP. Directed Study for the M.F.A. in Drawing/Painting
(2-12) STAFF
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

592IM. Directed Study in Intermedia (New Forms)
(2-12) STAFF
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

591PH. Directed Study in Photography
(2-12) STAFF
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

591PM. Directed Study for the M.F.A. in Printmaking
(2-12) MCCURDY
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

591S. Directed Study for the M.F.A. in Sculpture
(2-12) STAFF
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

593MS. M.F.A. Thesis Project
(2-12) STAFF
Prerequisites: graduate standing and consent of instructor.

Individual tutorial.

594. Special Studies in Studio Art
(4) STAFF
Prerequisite: graduate standing.

A means of making special studies and meeting special curricular problems.

595. Directed Historical Reading and Research
(4) STAFF
Prerequisite: graduate standing.

Independent research involving extensive reading and written essay on a particular period, artist, or body of work with a historical context.

Asian American Studies

Asian American Studies Program, Division of Social Sciences, Ellison Hall 2803; Telephone (805) 893-2371
Program Chair: Sucheng Chan

Faculty

Jachinson (Jay) Chan, Ph.D., UC Santa Cruz, Assistant Professor *(Asian American literature, cultural studies)*

Sucheng Chan, Ph.D., UC Berkeley, Professor *(immigration history, contemporary community issues)*

Jon D. Cruz, Ph.D., UC Berkeley, Assistant Professor *(community research, cultural studies, sociological theory, Filipino American experience)*

Shirley Geok-lin Lim, Ph.D., Brandeis University, Professor *(Asian American literature, Southeast Asian literature, creative writing, feminist criticism)*

In-Jin Yoon, Ph.D., University of Chicago, Assistant Professor *(Asian Americans in the economy, Asian American communities, interethnic relations, Korean American experience)*

Nolan Wah Sung Zane, Ph.D., University of Washington, Assistant Professor *(personality, counseling, service delivery)*

Advisory Committee

Sucheng Chan, Ph.D. (Asian American Studies)

Jon D. Cruz, Ph.D. (Sociology, Asian American Studies)

Shirley Geok-lin Lim, Ph.D. (Asian American Studies)

Francisco A. Lomelí, Ph.D. (Chicano Studies, Spanish and Portuguese)

Gerard G. Pigeon, Ph.D. (Black Studies)

John M. Wiemann, Ph.D. (Communication)

In-Jin Yoon, Ph.D. (Asian American Studies)

Nolan Wah Sung Zane, Ph.D. (Counseling Psychology, Asian American Studies)

The Asian American Studies Program offers students an opportunity to study and understand the experiences of Asian Americans, particularly their history, communities, and culture. Students will also learn to evaluate the existing literature, gather new information, and analyze a variety of data on Asian Americans.

The history courses treat Asian American history as part of United States history, but they also highlight selected aspects of Asian history in order to show how homeland developments affected and continue to affect the lives of Asian Americans. Asian American communities are studied as examples of American ethnic communities whose internal structures and relationships to the wider society change from one historical period to another. Asian American culture is viewed not as a simple blending of East and West, but as an artistic expression that reflects the development of an Asian American voice and the emergence of an Asian American sensibility.

Students who wish to use Asian American Studies courses for a California Teaching Credential should consult the credential adviser in the Graduate School of Education or an adviser in the College of Letters and Science.

Asian American Studies Courses

LOWER DIVISION

1. Comparative Asian American History, 1850-1965

(4) S. CHAN

A comparative analysis of Chinese, Japanese, Korean, Asian Indian, and Filipino immigration into Hawaii and the continental United States; settlement and employment patterns; community organizations; anti-Asian movements; women and families; World War II internment of Japanese Americans; and postwar developments.

2. Contemporary Asian American History

(4) S. CHAN

Changes in Asian American communities as a result of renewed immigration from Asia since 1965; the influx of refugees from Vietnam, Cambodia, and Laos; impact of the civil rights, anti-war, and women's movements on Asian Americans' current economic, social, and political status.

3. Asian American Personality and Identity

(4) ZANE

Cultural values and behavioral norms; ethnic identity development; process of acculturation; family patterns of communication; stressors and social support systems; tokenism; symbolic racism; academic achievement; interpersonal effectiveness; and culturally-responsive mental health treatment and service delivery.

4. Introduction to Asian American Popular Culture

(4) J. CHAN, CRUZ

A survey of Asian American literature, theater arts, cinema, and music, as vehicles for the creation of a culture based on the historical and contemporary experiences of Asians in America that goes beyond a simple blending of East and West.

5. Introduction to Asian American Literature

(4) J. CHAN, LIM

Selected major themes in literary texts from Asian American communities, including Japanese, Chinese, Korean, Filipino, and Southeast Asian Americans: dislocation/relocation; finding/inventing a usable past; poetics/politics in language; identities/ethnicities.

6. Contemporary Issues in Asian American Communities

(4) YOON

Issues of concern to Asian Americans: multicultural education; employment, career advancement and income equality; immigrant adaptation and social services; civil and legal rights; political participation and power; media stereotypes and cultural expression; anti-Asian violence.

7. Amerasians

(4) STAFF

An interdisciplinary examination of the world of Amerasians—individuals born of mixed Asian and non-Asian or cross-Asian parentage. Includes studies in history, sociology, culture, and identity development as well as creative works by Amerasians.

8. Asian American Gender Relations

(4) ZANE, LIM

An examination of relations between Asian American men and women using creative writings and sociopsychological data. Topics include: gender identity development, role relations, interracial marriage, gender differences in patterns of communication, and impact of acculturation and racism on gender relations.

UPPER DIVISION

101. Chinese American Experience

(4) S. CHAN

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

International context of nineteenth-century Chinese immigration; labor and entrepreneurship; effects of demography and social organizations on community structure; the anti-Chinese movement; life during exclusion; changes since World War II; impact of changing United States-China relations; contemporary immigration and communities.

102. The Japanese American Experience

(4) S. CHAN

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Japanese immigrant life in Hawaii and the United States; the anti-Japanese movement; impact of Japanese militarism on Japanese Americans; problems of the American-born; World War II internment; postwar changes; contemporary issues; redress and reparations movement.

103. The Filipino American Experience

(4) CRUZ

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Historical, political, and economic forces and their impact on the labor, class, gender, and cultural experiences of Filipinos in America. American colonial and neocolonial legacy; migration to Hawaii and United States mainland; origin and development of communities; and contemporary issues.

104. The Korean American Experience

(4) YOON

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Korean immigration from 1903 to present; patterns of economic, cultural, and political adjustments; the post - 1965 new immigration; "success image" of Korean Americans; labor problems; Koreatowns; youth and elderly problems; mental health; family life; community leadership; and inter-ethnic relations.

105. The Vietnamese, Cambodian, Lao, and Hmong Experience

(4) S. CHAN

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

American involvement in the war in Vietnam, Cambodia, and Laos; the establishment of Communist governments and the impact of political and economic conditions on the outflow of refugees; refugee resettlement and adaptation in the United States; secondary migrations; contemporary immigration and communities.

106. The Asian Indian Experience in the United States

(4) STAFF

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Cultural (particularly religious) interactions between India and the United States; immigration of Punjabi Sikhs in the early twentieth century; exclusion of Indians; formation of Punjabi-Mexican families in California; contemporary Asian Indian immigration, settlement, employment, income, and cultural adaptation.

111. Asian American Communities

(4) YOON

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Historical formation of Asian immigrant communities and their social structure and functions; spatial patterns of contemporary ethnic enclaves; social and cultural ties among geographically-dispersed Asian Americans; economic, political, and social interactions between ethnic communities and the wider society.

112. Asian Americans and Education

(4) STAFF

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Educational issues affecting Asian Americans: bilingual education; Asian American Studies; the university admissions controversy; eligibility for affirmative action programs; overrepresentation and underrepresentation in various fields; the model minority myth; and psychological consequences of the pressure to succeed.

114. Asian Americans in the Economy

(4) YOON

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Historical patterns of econmic discrimination against Asian Americans; current labor market participation; business entrepreneurship and ethnic enclaves; the "glass ceiling" and the other obstacles to income parity and socioeconomic upward mobility; and the gap between educational level and income.

115. Asian Americans, Law, and Politics

(4) S. CHAN

Prerequisites: One lower division Asian American Studies course or consent of instructor.

History of legal discrimination and political disenfranchisement; landmark court cases involving Asian Americans; patterns of resistance; Asian Americans in electoral politics; protest politics and the Asian American movement; contemporary patterns of political participation; law and politics as careers.

117. Cultural Diversity Issues in Serving Ethnic Communities

(4) ZANE

Prerequisite: Asian American Studies 1 or Black Studies 1 or Chicano Studies 1A or 1B or 1C or consent of instuctor.

Course examines the provision of culturally-responsive services to ethnic minority communities: African American, American Indian, Asian American, and Hispanic American. Issues studied include human service needs, help-seeking patterns, cultural coping styles, and models of effective service delivery.

119. Asian Americans and Race Relations

(4) ZANE

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

An overview of how racism and discrimination affect Asian Americans in terms of inter-group relations, political status, social mobility, ethnic identity, and psychological adjustment. Topics include race relations theory, processes that develop and maintain stereotypes, and effects of tokenism.

121. Asian American Autobiographies and Biographies

(4) LIM

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Asian American autobiographies and biographies, their socio-political reflections and expressions, inscribing the subject in and against culture; relations between intention and form. Readings will include Pardee Lowe, Jade Snow Wong, Monica Sone, Jeanne Houston, Carlos Bulosan, and Maxine Hong Kingston.

122. Asian American Novels

(4) LIM

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

A comparative analysis of Asian American fiction: traditions, themes, and concerns. Novelists include Younghill Kang, John Okada, Louis Chu, Diana Chang, Jon Shirota, Maxine Hong Kingston, Joy Kogawa, Wendy Law-Yone, Bharati Mukherjee, and Tran Van Dinh.

123. Asian American Short Stories

(4) LIM

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

How Asian American writers bracket ethnicity, community, and counter-hegemonic ideologies in the short story form; includes a comparative study with Asian and Anglo-American short stories.

124. Asian American Poetry

(4) LIM

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Course examines the body of Asian American poetry—immigrant, polemicist, contemporary—in terms of relations between periodicity and poetics, socio-political circumstance and significance, and mainstream stylistics and ethnic formulations.

125. Asian American Plays

(4) J. CHAN

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

An examination of plays by first-, second-, and third- generation Asian Americans that demonstrate divergent yet expanding vitality in Asian American theater; works by Ping Chong, David Henry Hwang, Frank Chin, Genny Lim, Wakako Yamauchi, Philip Kan Gotanda, and Velina Hasu Houston.

126. The Asian American Child in Literature

(4) STAFF

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

The Asian American child as the "outsider" and how that exotic mask has been broken in stories by and about children. Readings may include stories by Toshio Mori, Yoshiko Uchida, Laurence Yep, and others, and autobiographies by Asian Americans.

127. Asian American Films

(4) STAFF

Prerequisite: one Asian American Studies lower-division course or Film Studies 46.

The films of Wayne Wang, Stephen Ning, Steven Okazaki, Loni Ding, Christine Choy, Renee Tajima, Deborah Bock, Arthur Dong, Deborah Gee, Felicia Lowe, Robert Nakamura, Spencer Nakasako, Lori Tsang, Supachai Surongsain, Ritu Sarin, and Tenzing Sonam.

131. Asian American Women's History

(4) S. CHAN

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

The lives and changing status of Asian immigrant women, past and present; Japanese and Korean "picture brides;" American-born girls of Asian ancestry; Chinese, Japanese, Korean, and Filipino war brides; adopted Asian girls; and diverse life-styles of Asian American women today.

132. Asian American Women and Contemporary Feminist Issues

(4) STAFF

Prerequisite: one Asian American Studies lower-division course or consent of the instructor.

An examination of the cultural, social, and political situations of Asian and Pacific American women. Theories developed to explain the various cross-cultural positions and roles of women will be presented, e.g., theories of domestic power, economic production, and division of labor.

133. Writings by Asian American Women

(4) LIM

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

Asian American women's writings covering a variety of genres and cultural communities; emphasis on literary analysis of works in relation to central themes of race, family and gender.

136. The Asian American Family

(4) STAFF

Prerequisite: one lower-division Asian American Studies course or consent of the instructor.

The importance of the family in the East and Southeast Asian cultural heritage; family formation in the United States; contemporary Asian American family dynamics; interracial families; changing gender roles and relationships; the family and the life cycle.

141. Asian American Creative Writing

(4) LIM

Prerequisite: English 1, 2A-B, or equivalent, one lower-division Asian American Studies course, or consent of instructor. May be repeated for credit for a maximum of 8 units.

A creative writing workshop focusing on Asian American themes. Different genres will be emphasized depending on a particular instructor's preference and expertise.

142. Asian American Theater Workshop

(8) STAFF

Prerequisite: one Asian American Studies lower-division course or Asian American Studies 125, or one lower-division course in dramatic art, or consent of instructor.

A double-credit laboratory workshop to write, direct, produce, act, or otherwise participate in plays with Asian American themes. The class will prepare for the production of one or more plays at the end of the quarter.

143. Asian American Filmmaking Workshop

(4) STAFF

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

A laboratory workshop to introduce students to the basic techniques of filmmaking. An in-depth consideration of the challenges facing Asian American filmmakers who wish to focus on themes from their own social history. Exercises in the production of mini-films on videotape.

144. Asian American Visual Media Workshop

(4) STAFF

Prerequisite: one lower-division Asian American Studies course or consent of instructor.

A laboratory workshop in which students can use a variety of visual media, such as photography, film, painting, and drawing to express the Asian American experience.

180. Junior Seminar in Asian American Studies

(4) J. CHAN, S. CHAN, CRUZ, LIM, YOON, ZANE

Prerequisites: students must have: 1) upper-division stanind, 2) minimum grade-point average of 2.5, 3) declared a major in Asian American Studies.

A seminar limited to 15 students to discuss major themes and research issues in Asian American Studies. Provides an overview for juniors embarking on an Asian American Studies major. Explores the challenges and problems of this interdisciplinary field.

190. Senior Seminar in Asian American Studies

(4) J. CHAN, S. CHAN, CRUZ, LIM, YOON, ZANE

Prerequisites: 1) upper-division standing, 2) minimum grade-point average of 2.5, 3) have taken at least four upper-division courses in Asian American Studies.

A seminar limited to 15 students to discuss research methods and theories as they pertain to the interdisciplinary study of Asian Americans. Focus on Asian American historical, community, cultural studies. Preference given to Asian American Studies majors.

194. Group Studies

(1-4) STAFF

Prerequisites: one lower-division Asian American Studies course or consent of instructor and at least two upper-division courses. Upper-division standing. May be repeated for a maximum of 8 units; 4 units may be applied to major.

Course limited to 12 or fewer students. Group study of topics not covered in the regular curriculum.

197. Field Studies

(1-4) STAFF

Prerequisites: open to students who 1) have attained upper-division standing, 2) have at least a 3.0 grade-point average for the preceding three quarters, 3) have completed at least two upper-division courses in Asian American Studies. May be repeated for credit to a maximum of 8 units.

Students will conduct independent field work in Asian American communities. Specific projects include working with community agencies and organizations to evaluate programs, implement new or modified services, and develop community resources.

199. Independent Studies

(1-4) STAFF

Prerequisites: (1) one lower-division Asian American Studies and at least two upper-division courses; (2) have attained upper-division standing; (3) have a minimum 3.0 grade-point average for the preceding three quarters. Maximum of 4 units per quarter or a total of 8 units in Asian American Studies. Students are limited to 5 units per quarter, and 30 units total in all 198/199 courses combined.

Independent study of topics not covered in the regular curriculum under the guidance of an approved faculty member.

199RA. Independent Research Assistance in Asian American Studies

(1-4) STAFF

Prerequisites: 1) upper-division standing, 2) minimum grade-point average of 3.0 for preceding three quarters, 3) have completed at least two upper-division courses in Asian American Studies, and 4) have consent of instructor and department. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses.

Students will assist faculty in the latter's research under the personal supervision of the faculty.

Asian Studies

For Asian Studies faculty, program information, and courses, see East Asian Languages and Cultural Studies.

Biochemistry and Molecular Biology

Interdepartmental Program in
Biochemistry and Molecular Biology,
Biological Sciences II, Room 3117;
Telephone (805) 893-2290

Department of Biological Sciences,
Division of Mathematical, Life, and
Physical Sciences, Building 478, Room
1215;
Telephone (805) 893-3023
Director: Charles E. Samuel
Co-Director: Stanley Parsons

Advisory Committee

Alison Butler, Ph.D. (*Chemistry*)

John A. Carbon, Ph.D. (*Biochemistry*)

Stanley M. Parsons, Ph.D. (*Chemistry*)

Charles E. Samuel, Ph.D. (*Biochemistry*)

Duane W. Sears, Ph.D. (*Biochemistry*)

Leslie Wilson, Ph.D. (*Biochemistry*)

The interdepartmental graduate program in biochemistry and molecular biology offers studies leading to the Ph.D. degree. The program is administered jointly by the Departments of Biological Sciences and Chemistry, and emphasizes the understanding of biological phenomena at the molecular level. Research areas currently under active investigation on campus include human cell genetics, kinetics and regulation of enzymes, nuclear-cytoplasmic relationships, the cytoskeleton, mechanisms of cellular differentiation, synthetic recom-binants and gene transfer, and molecular virology and immunology. A complete listing of research interests of the participating faculty can be obtained by writing to the above address.

The program accommodates students with a diversity of backgrounds and career goals, and accepts students with undergraduate degrees in either chemistry or biology. In addition to program requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB." Doctoral candidates in the program must be registered as full-time students in classes in either the Department of Biological Sciences or the Department of Chemistry. Highly individualized programs of instruction can be undertaken by a student enrolled in the program after consultation with and approval by the program committee. Approximately 27 faculty members from the sponsoring departments are available to direct approved research projects under the auspices of the program.

Other graduate programs in various aspects of molecular biology and bio-organic and biophysical chemistry are offered by the Departments of Biological Sciences and Chemistry. Consult the catalog descriptions of these two departments for details.

Doctor of Philosophy—Biochemistry and Molecular Biology

Admission

In addition to fulfilling the general requirements for admission to graduate status, the applicant will normally hold a bachelor's degree in chemistry, biochemistry, or another biological science. Undergraduate preparation should include the equivalent of the following UCSB courses: Chemistry 1A-B-C; Chemistry 130A-B-C; Chemistry 6A-B-C; Biology 4A-B-C; Biology 130A-B; Biology 108A-B-C and Biology 109L; Mathematics 3A-B-C followed by a fourth quarter of mathematics (differential equations recommended); Physics 6A-AL-B-BL-C-CL.

Applicants with strong undergraduate records who lack some of the preparation indicated above may be admitted with the condition that they complete necessary coursework early in their graduate careers.

Transcripts and Graduate Record Exam (GRE) scores are required of all applicants. The GRE general test and one of the following three subject tests—biology; or chemistry; or biochemistry, cell and molecular biology—are required. In addition, foreign students are required to score a minimum of 550 on the Test of English as a Foreign Language (TOEFL), except for those who speak English as their native language or received a degree from an institution in the United States

Degree Requirements

A complete program of courses will be arranged for each student on an individual basis in consultation with the program graduate adviser. The student may emphasize either biochemistry or molecular biology, but the common core of courses must be completed by all students in the program.

Common core of courses: Students must satisfactorily complete four graduate-level lecture courses in the 200 series, a minimum of three of which must be chosen from the five following courses: BMB 218A (Nucleic Acids and Proteins), BMB 218B (Molecular and Cell Biology), BMB 218C (Gene Regulation and Development), BMB 256A (Physical Biochemistry), and BMB 256B (Enzyme Kinetics and Mechanisms).

Seminar courses: Each quarter of the student's graduate study, enrollment is also required in BMB 260 (Research Seminar), and BMB 262 (Literature in Molecular Biology). In addition, enrollment in two graduate literature seminars per year in the 260 or 595 series is required until formal admission to candidacy for the Ph.D.

Examinations: In order to qualify for advancement to candidacy for the Ph.D. degree, students must successfully complete, in addition to the four lecture courses, two qualifying examinations, each consisting of a written research proposition followed by an oral defense of the proposition. The examinations are normally to be taken at the beginning of the second and third year of graduate study. The topic of the first examination is to be chosen from an area different from the student's anticipated area of research; the second examination is based on the student's dissertation research. The final requirement for the Ph.D. degree is a written dissertation and its oral defense, which usually is in the form of a scheduled Interdepartmental Program seminar.

Students will be expected to begin research for the doctoral dissertation early in their graduate careers; research directors may be selected from appropriate faculty in the Department of Biological Sciences or the Department of Chemistry with the approval of the program committee.

Biochemistry-Molecular Biology Courses

UNDERGRADUATE COURSES

1FS. Special Topics in Biochemistry and Molecular and Cellular Biology

(2) STAFF

Prerequisites: courses in high school biology and/or chemistry.

Freshman seminar. Exploration of the biochemical basis of selected characteristics of living systems. Biological order, specificity and continuity will be considered in terms of molecular descriptions of cells and cellular processes, including metabolism, growth and development.

195. Biomedical Research Colloquium

(1) STAFF

Prerequisites: Biology 4A-B-C or equivalent.

Undergraduate colloquium. Lectures by UCSB faculty from the Interdepartmental Biochemistry-Molecular Biology Program focused on their current research in the biomedical discipline of biochemistry and molecular and cellular biology.

GRADUATE COURSES

218A. Nucleic Acids and Proteins

(5) TABORSKY, CARBON

Prerequisites: Graduate standing in biochemistry-molecular biology, or consent of instructor. Same course as Biology 218A.

Properties, structure, and structure-function analysis of nucleic acids and proteins; modern methods in nucleic acid research (synthetic and recombinant DNA, in vitro mutagenesis); protein dynamics (folding, transport, covalent, and non-covalent structural adaptations to function.) (F)

218B. Molecular & Cellular Biology

(5) CLARKE, ORIAS, SAMUEL, WILSON

Prerequisites: Graduate standing or consent of instructor. Same course as Biology 218B.

Mechanisms of gene expression (transcription, translation, replication) in prokaryotes, eukaryotes, and their viruses (phage, lambda, SV40, HIV). Form and function of eurkaryote cells and their organelles. Nuclear structure and chromatin organization; organization of cytoplasm and cytoskeleton; structure and function of membrane. (W)

218C. Gene Regulation and Development

(5) CHRISTOFFERSEN, CLEGG, FEINSTEIN, FINKELSTEIN, SEARS, TRIPLETT

Prerequisites: Biology 218B or Biochemistry-Molecular Biology 218B. Same course as Biology 218C.

Specialized features of plant cells. Regulation of gene expression during development. Models include prokaryotes (bacteria) and eukaryotes (plants, yeast, ciliates, *C. Elegans, Drosophila*, sea urchins, mouse), with emphasis on systems that undergo cellular differentation and cellular rearrangement. (S)

218X. Selected Topics in Gene Regulation and Development

(1-4) STAFF

Prerequisite: consent of graduate advisor. Same course as Biology 218X.

Selected topics in gene regulation and development as appropriate to fulfill the course requirement of graduate students in Biochemistry and Molecular Biology.

218Y. Selected Topics in Molecular and Cellular Biology

(1-4) STAFF

Prerequisites: consent of graduate advisor. Same course as Biology 218Y.

Selected topics in molecular and cellular biology as appropriate to fulfill the course requirement of graduate students in Biochemistry and Molecular Biology.

218X. Selected Topics in the Biochemistry of Nucleic Acids and Proteins

(1-4) STAFF

Prerequisite: consent of graduate advisor. Same course as Biology 218Z.

Selected topics in the biochemistry of nucleic acids and proteins as appropriate to fulfill the course requirement of graduate students in Biochemistry and Molecular Biology.

256A. Physical Biochemistry

(5) STAFF

Prerequisites: One year of undergraduate courses in each of the following: biochemistry, organic chemistry, physical chemistry or consent of instructor. Same course as Chemistry 256A.

Isolation and structural analysis of biomolecules. Hydrodynamics and spectroscopies.

256B. Enzyme Kinetics and Mechanisms

(5) STAFF

Prerequisites: One year of undergraduate courses in each of the following: biochemistry, organic chemistry, physical chemistry or consent of instructor. Same course as Chemistry 256B.

Enzyme kinetic and chemical mechanisms. Theory, experimental design, and data analysis. Enzyme models and non-classical enzymes.

259. Selected Topics in Biological Chemistry

(1-4) STAFF

Prerequisites: Consent of instructor. Same course as Chemistry 259.

Selected topics from bio-organic, biophysical, or biological chemistry. The content of this course will vary. Course may be repeated with a different topic (18 units maximum).

260. Research Seminar in Biochemistry-Molecular Biology

(1) STAFF

Prerequisites: Graduate status. Same course as Biology 260.

Seminars on research in progress presented by faculty of the Department of Chemistry and the Molecular and Cellular division of the Department of Biological Sciences. Required attendance for all graduate students in biochemistry-molecular biology.

262. Literature in Molecular Biology

(1) STAFF

Prerequisites: Same course as Biology 262

Critical reading and presentation of the current literature in molecular biology by staff, postdoctoral fellows, and graduate students. Required attendance for graduate students in Biochemistry and Molecular Biology.

263. Progress in Biochemistry and Molecular Biology
(1) STAFF
Prerequisites: Same course as Biology 263

Research seminars presented by invited speakers on current research topics.

595A-B. Group Studies
(2) STAFF
Prerequisites: Consent of instructor. Same course as Biology 595A-B.

A critical review of research in selected fields of Biochemistry-Molecular Biology.

596. Directed Reading and Research.
(2-12) STAFF
Prerequisites: No more than half the units necessary for the Master's degree may be taken in Biochemistry-Molecular Biology 596. Same course as Chemistry 596.

Individual tutorial. Instuctor usually is the student's major professor. A written proposal for each tutorial must be approved by the department chair. Each faculty member has a unique number designation.

596AA-ZZ. Directed Reading and Research
(2-12) STAFF
Prerequistes: Consent of instructor. May be repeated for credit up to half of the graduate units required for the M.A. degree. Sane course as Biology 596.

Hours and credit by arrangment with faculty.

Biological Sciences

Department of Biological Sciences, Division of Mathematical, Life, and Physical Sciences, Building 478, Room 1200A;
Telephone (805) 893-3511
Department Chair: William Murdoch

Faculty

Alice L. Alldredge, Ph.D., UC Davis, Professor (*marine biology*)

Roymarie Ballester, Ph.D., Albert Einstein College of Medicine, Assistant Professor (*eukaryotic cell microbiology*)

Daniel B. Botkin, Ph.D., Rutgers University, Professor Emeritus

Mark A. Brzezinski, Ph.D., Oregon State University, Assistant Professor (*biological oceanography*)

John A. Carbon, Ph.D., Northwestern University, Professor (*biochemistry*)

James F. Case, Ph.D., Johns Hopkins University, Professor (*neurobiology*)

Vernon I. Cheadle, Ph.D., Harvard University, Chancellor Emeritus

James J. Childress, Ph.D., Stanford University, Professor (*ecological physiology*)

Rolf E. Christoffersen, Ph.D., UC Los Angeles, Associate Professor (*plant molecular biology*)

Louise Clarke, Ph.D., UC Santa Barbara, Professor (*biochemistry and genetics*)

Dennis O. Clegg, Ph.D., UC Berkeley, Assistant Professor (*neurobiology*)

Peter M. Collins, Ph.D., University of London, Professor (*endocrinology*)

Joseph H. Connell, Ph.D., Glasgow, Professor Emeritus

James B. Cooper, Ph.D., Washington University, Assistant Professor (*plant biology*)

Scott D. Cooper, Ph.D., University of Wisconsin, Professor (*aquatic ecology and limnology*)

James Cronshaw, D.Sc., Ph.D., Leeds, Professor Emeritus

John E. Cushing, Ph.D., California Institute of Technology, Professor Emeritus

Demorest Davenport, Ph.D., Harvard University, Professor Emeritus

Edward F. DeLong, Ph.D., UC San Diego, Assistant Professor (*marine microbiology, molecular ecology*)

Barbara B. DeWolfe, Ph.D., UC Berkeley, Professor Emerita

Diane E. Eardley, Ph.D., UC Berkeley, Associate Professor (*cellular immunology*)

Alfred W. Ebeling, Ph.D., UC Los Angeles and Scripps Institution of Oceanography, Professor (*zoology*)

John A. Endler, Ph.D., University of Edinburgh, Professor (*population and ecological genetics*)

Ellis Englesberg, Ph.D., UC Berkeley, Professor Emeritus

Katherine Esau, Ph.D., UC Berkeley, Professor Emerita

Stuart C. Feinstein, Ph.D., UC San Francisco, Associate Professor (*molecular cell biology and neurobiology*)

Ruth R. Finkelstein, Ph.D., Indiana University, Assistant Professor (*plant biology*)

Steven K. Fisher, Ph.D., Purdue University, Professor (*neurobiology*)

Kathleen Foltz, Ph.D., Purdue University, Assistant Professor (*cellular and molecular biology, marine invertebrate development*)

Aharon Gibor, Ph.D., Stanford University, Professor Emeritus

John R. Haller, Ph.D., UC Los Angeles, Associate Professor Emeritus

Garrett Hardin, Ph.D., Stanford University, Professor Emeritus

Sally J. Holbrook, Ph.D., UC Berkeley, Professor (*population ecology*)

Robert W. Holmes, Ph.D., Oslo, Professor Emeritus

W. Neil Holmes, D.Sc., Ph.D., Liverpool, Professor Emeritus

Robert S. Jacobs, Ph.D., Loyola University, Professor (*pharmacology*)

David M. Kohl, Ph.D., State University of New York, Lecturer with Security of Employment, Health Sciences Adviser (*developmental biology*)

Armand M. Kuris, Ph.D., UC Berkeley, Professor (*parasitology, marine ecology*)

Philip C. Laris, Ph.D., Princeton University, Professor Emeritus

Nancy L. Lee, Ph.D., University of Pittsburgh, Professor (*molecular biology, biochemistry*)

Bruce E. Mahall, Ph.D., UC Berkeley, Professor (*plant ecology*)

Susan J. Mazer, Ph.D., UC Davis, Assistant Professor (*plant evolution*)

John M. Melack, Ph.D., Duke University, Professor (*zoology and limnology*)

Daniel Morse, Ph.D., Albert Einstein College of Medicine, Professor (*molecular genetics, biochemistry, marine biology, developmental biology*)

Maynard F. Moseley, Ph.D., University of Illinois, Professor Emeritus

Cornelius H. Muller, Ph.D., University of Illinois, Professor Emeritus

William W. Murdoch, Ph.D., Oxford University, Professor (*population ecology*)

Henry I. Nakada, Ph.D., Temple University, Professor Emeritus

Roger M. Nisbet, Ph.D., University of St. Andrews, Professor (*theoretical population ecology*)

Elmer R. Noble, Ph.D., UC Berkeley, Professor Emeritus

Eduardo Orias, Ph.D., University of Michigan, Professor (*genetics*)

Stephen J. Poole, Ph.D., UC San Diego, Assistant Professor (*biochemistry, molecular biology*)

Barbara B. Prezelin, Ph.D., Scripps Institution of Oceanography, Professor (*marine biology*)

Ian K. Ross, Ph.D., McGill University, Professor (*cell biology, mycology*)

Stephen I. Rothstein, Ph.D., Yale University, Professor (*evolutionary biology, ecology, ethology*)

Charles E. Samuel, Ph.D., UC Berkeley, Professor (*virology, biochemistry*)

Duane Sears, Ph.D., Columbia University, Professor (*biochemistry*)

Dale M. Smith, Ph.D., Indiana University, Professor Emeritus

Allan Stewart-Oaten, Ph.D., Michigan State University, Associate Professor (*mathematical biology, statistics*)

Samuel S. Sweet, Ph.D., UC Berkeley, Associate Professor (*vertebrate morphology*)

George Taborsky, Ph.D., Yale University, Professor Emeritus

Barry D. Tanowitz, Ph.D., UC Santa Barbara, Lecturer (*evolutionary biology*)

Robert K. Trench, Ph.D., UC Los Angeles, Professor (*biology*)

Edward L. Triplett, Ph.D., Stanford University, Professor Emeritus

Carol A. Vandenberg, Ph.D., UC San Diego, Assistant Professor (*neurobiology*)

Robert R. Warner, Ph.D., Scripps Institution of Oceanography, Professor (*marine ecology*)

Adrian M. Wenner, Ph.D., University of Michigan, Professor Emeritus

Leslie Wilson, Ph.D., Tufts University, Professor (*biochemical pharmacology*)

Affiliated Faculty

Raymond C. Smith, Ph.D. (Geography)

Thomas M. Hooker, Ph.D. (Chemistry)

The Department of Biological Sciences offers opportunities for obtaining the Bachelor of Arts degree through nine departmental majors—aquatic biology, biochemistry-molecular biology, biological sciences, botany, ecology and evolution, microbiology, pharmacology, physiology and cell biology, and zoology—and the Bachelor of Science degree in pharmacology. The department offers graduate programs leading to the degrees of Master of Arts and Doctor of Philosophy, with emphases in two areas: ecology, evolution, and marine biology; and molecular and cellular biology. An inter-departmental graduate program is offered in biochemistry and molecular biology, in cooperation with the Department of Chemistry. In addition, a wide range of courses is available to all undergraduates for elective enrollment or for the support of their preparation for degrees in other departments or programs.

Many students in the Department of Biological Sciences prepare for entry into graduate or professional schools. Students should become familiar with the requirements of several institutions offering work in the specialty that interests them, and then discuss their programs with their adviser. In general, students preparing for careers in medicine, dentistry, nursing, and laboratory work select biochemistry-molecular biology, biological sciences, microbiology, pharmacology, physiology and cell biology, or zoology as their major. Aquatic biology, biological sciences, botany, ecology and evolution, or physiology and cell biology are suitable preparation for further study in agriculture, forestry, and wildlife and water management.

After completion of specific prerequisites, students with a bachelor's degree in biological sciences are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

The department undergraduate academic adviser is available for counseling on matters such as degree requirements, course substitutions, petitions, and career and graduate school information. The department provides a full range of health science advising, and coordinates appli-cations of students applying to medical, dental, and other health professional programs. Four faculty members serve each year as graduate advisers, and one faculty member serves as graduate adviser in the interdepartmental program in biochemistry and molecular biology. The graduate program assistant helps graduate students in all matters related to their graduate study. Department publications are available from the undergraduate adviser and the graduate program assistant.

Undergraduate Program

Students are normally expected to complete all lower-division course requirements by the end of their sophomore year, but physics may be delayed until the junior year if necessary. Students with good high school backgrounds are urged to complete their basic preparation in general chemistry and mathematics during their freshman year. Students with weak mathematics preparation should make up this deficiency by completing intermediate algebra and trigonometry by correspondence through University Extension, preferably during the summer preceding enrollment at UCSB, or by completing Mathematics 15 at UCSB. As the requirements suggest, each major in the department is designed to emphasize a different area in biology.

Upper-division biology courses offered on the P/NP basis only and Biology 198 and 199 courses offered on the optional grading basis may be taken P/NP for major credit to a maximum of 4 units total in any combination. All other courses for the major, both preparation and upper-division, must be taken for letter grades.

Bachelor of Arts—Biological Sciences

Aquatic Biology Major

The aquatic biology major provides students with interests in marine biology, biological oceanography, limnology, marine and freshwater ecology, and population biology of aquatic organisms with an opportunity to gain a general background in these subject areas. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C *(formerly Biology 1, 2, 3)* (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL, 6A-B, and either 8A-B or 130A-B-C; Physics 6A-AL-B-BL-C-CL; Mathematics 3A-B or 3A and 7B or 34A-B, *and* one of the following: PSTAT 5A or Biology 30 or Math 3C or 7C. (PSTAT 5A or Biology 30 strongly recommended.)

Upper-division major. Forty-two upper-division units in biological sciences, including:

(1) Biology 145A-B-C;

(2) at least one course or course sequence from each of the following categories:
A. Genetics: Biology 130A-B
B. Development or Biochemistry: Botany 111; Zoology 100-100L; Biology 118
C. Ecology: Biology 120
D. Physiology: Biology 100; Botany 120; Zoology 143-143L;

(3) at least two courses from the following list:

Biology 141, 142, 145AL, 145BL, 145CL, 147, 148, 148L, 149, 150, 151, 153, 154, 159, 185 (only 4 units of Biology 185 can be used toward the upper-division requirements); Botany 170; Zoology 105, 111, 112A, 112B, 143-143L, 161 *(Note: Zoology 143-143L cannot fill both this requirement and the physiology requirement above simultaneously)*;
and

(4) additional upper-division courses offered within the Department of Biological Sciences to bring total units to 42. *Note: Biology 184 ,191, and 193 do not count toward upper-division major credit.*

Recommended courses: Geography 104, 112, 136A, 163A-B; Geology 105, 166.

Biochemistry-Molecular Biology Major

This major is designed for students interested in the characteristics of the molecules and the molecular mechanisms involved in living systems. It is especially recommended for those planning graduate work in biochemistry, molecular biology, or microbiology. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; 130A-B-C and 6A-B-C; Mathematics 3A-B-C or 3A and 7B-C; followed by a fourth quarter of mathematics, with differential equations (Math 5A) recommended; Physics 6A-AL-B-BL-C-CL.

Upper-division major. Thirty-eight upper-division units, including Biology 130A-B, 108A-B-C, and 109L; Chemistry 113A-B and either Chemistry 112 or 113C; plus one additional upper-division course offered within the Department of Biological Sciences to bring total units to 38. *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.*

Biological Sciences Major

This major provides students with flexibility in curriculum planning. Biological sciences majors are required to consult with faculty advisers to assure planning a program that meets their chosen goals. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C *(formerly Biology 1, 2, 3)* (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; 6A-B and either 8A-B or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B; *and* one of the following: PSTAT 5A or Biology 30 or Mathematics 3C or 7C; Physics 6A-AL-B-BL-C-CL.

Upper-division major. A minimum of 38 upper-division units, distributed as follows:

Area A. Genetics: Biology 130A-B

Area B. Physiology: Biology 100 or Biology 105 or Botany 120 or Zoology 143-143L or Zoology 154.

Area C. One course or course sequence from two of the following three subsections *(Note: Biology 145B cannot be used for areas C2 and C3 simultaneously)*:

(1) Development: Botany 111; Zoology 100-100L; (2) Ecology: Biology 120, 145A, 145B, 145C; Botany 140-140L, 141, 142, 150, 159; Zoology 113A-AL, 139; (3) Diversity of Form and Structure: Biology 104, 122, 131, 141, 142, 143, 145B, 147, 153, 154, 161, 173; Botany 103A-B, 110, 151, 170; Zoology 105, 108, 111, 112A, 112B, 125, 130, 161.

Area D. Electives: Additional upper-division courses offered within the Department of Biological Sciences to bring unit total to 38. *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.*

Botany Major

Botany encompasses the study of plants at all levels of organization, from molecular mechanisms controlling growth and development to interactions between organisms at the ecosystem level. In addition to providing information about basic life processes in the plant kingdom, plant biology has applications in both agricultural and environmental sciences. The major offers unofficial specializations in either ecology and evolution or molecular and cellular aspects of plant biology. Students are encouraged to consult with faculty advisers in designing individualized curricula. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; 6A-B and either 8A-B or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B; and one of the following: PSTAT 5A, Biology 30, or Math 3C, or Math 7C; Physics 6A-AL-B-BL-C-CL.

Upper-division major. Thirty-eight upper-division units, including Biology 130A-B, Botany 112L, and at least three of the following four courses: Botany 111, 120, 140-140L, 150. The remaining units must be selected from any courses on the following list: Biology 104, 108A, 108B, 108C, 115, 118, 130C, 131, 137, 151, 173; Botany 103A, 103B, 141, 146, 147, 170; Chemistry 113A, 113B; Geography 167; Geology 141. The courses indicated below are recommended for the following unofficial specializations:

Ecology and Evolution: Biology 130C, 131; Botany 103A, 103B, 141, 146, 147, 170; Geography 167; Geology 141.

Molecular, Cellular, and Developmental Biology: Biology 104, 108A, 108B, 108C, 115, 118, 137, 151, 173; Chemistry 113A, 113B.

Ecology and Evolution Major

This major provides a solid foundation in the study of interactions among organisms, and of their relations to the environment. Following completion of the core sequence, students may elect either an ecology or evolution con-centration, or may devise their own program in consultation with a faculty adviser. This is the appropriate major for the field-oriented biologist and for students interested in graduate work in plant or animal population biology, ecology, or evolutionary biology. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C *(formerly Biology 1, 2, 3)* (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; Mathematics 3A-B or 3A and 7B or 34A-B; *and* one of the following: Biology 30 or PSTAT 5A; Physics 6A-AL-B-BL-C-CL. *Note: Organic chemistry is prerequisite to some, but not all of the courses in the physiology requirement below, and may be required by some graduate programs.*

Upper-division major. Forty-two upper-division units including Biology 120, Biology 130A-B, Biology 131, Botany 142 (ecology concentration) or Biology 130C (evolution concentration); and at least one course or course sequence from each of the following categories:

(1) Physiology: Biology 100 or Botany 120 or 141 or Zoology 143-143L;

(2) Animal Diversity and Systematics: Zoology 105, 108, 111, 112A, 112B, 113A-AL, 130, 161; Geology 111, 148;

(3) Plant Diversity and Systematics: Biology 173; Botany 103A, 150; Geology 141;

(4) Physical Environment: Biology 145A; Geography 110; Geology 101, 105;
and additional upper-division electives offered within the Department of Biological Sciences to bring the upper-division major total to 42. Note: *Biology 184, 191, and 193 do not count toward upper-division major credit.*

Microbiology Major

Microbiology has been and continues to be at the forefront in contributing to human welfare and to our understanding of the basic mechanisms of life processes. Three concentrations in microbiology are available:

General microbiology will provide the student with a broad knowledge of both procaryotic and eucaryotic microorganisms. Such a background will form the basis for understanding the relationships between the various groups of microorganisms and their environment and the relationship of those microorganisms to human welfare. This program will stress the contribution of microbiology to our understanding of basic life processes, and will provide a background for careers in food, industrial, marine, and pharmacological microbiology, and for graduate work in microbiology.

Biomedical sciences, in addition to providing a basic training in microbiology, will also provide a specialized background for students whose careers lie in the fields of medical technology, medicine, dentistry, or nursing, and for those who wish to pursue graduate work in medical or clinical microbiology.

Genetic engineering, in addition to providing a basic training in microbiology, will provide specialized training in the methodology of recombinant DNA research. This area of research is paving the way for a fundamental understanding of the nature of the eucaryotic gene and its regulation. It is also ushering in a revolution in the pharmaceutical industry in the production of hormones and other biologically useful agents. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; Chemistry 6A-B and either 8A-B-C or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B; *and* one of the following: Mathematics 3C or 7C or Biology 30 or PSTAT 5A; Physics 6A-AL-B-BL-C-CL.

Upper-division major. Forty-one to 43 upper-division units are required, including Biology 130A-B, 104, 128-128L, 118 *(Note: Biology 108A-B-C may be substituted for Biology 118 and is strongly recommended for the genetic engineering concentration)*, Biology 122, 123 (123L strongly recommended), 140 (140L strongly recommended), plus the following requirements for concentration in one of the following areas:

A. General Microbiology: Choose two of the following: Biology 142, 173; Botany 170

B. Biomedical Sciences: Zoology 111 and Biology 129

C. Genetic Engineering: Biology 132

The concentration will not be formally acknow-ledged on official transcripts or diplomas. The following courses are recommended: Biology 119C, 123L, 140L; Chemistry 113A-B-C, 150-150L. *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.*

Pharmacology Major

The emphasis in this major is on pharmacology as a basic science, rather than on the therapeutic principles of pharmacology. The curriculum content is designed to prepare students for careers in pharmaceutical research-and-development laboratories; the program also provides a strong background for graduate study in pharmacology. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; 6A-B and either Chemistry 8A-B-C or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B; *and* one of the following: Mathematics 3C or 7C or Biology 30 or PSTAT 5A; Physics 6A-AL-B-BL-C-CL.

Upper-division major. At least 46 upper-division units, including Biology 130A-B; Biology 100 or 105 or Zoology 154; Biology 108A-B-C and 109L; Biology 119A-AL-B-BL-C. Additional recommended courses are: Chemistry 6C, 150-150L; Biology 104, 105, 128, 140, 146A-B, 169; Zoology 108, 155. *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.*

Physiology and Cell Biology Major

Note: This major is currently being reviewed by the faculty and is likely to be significantly revised. However, details of the revision were not yet determined at the time the catalog went to press. The description below corresponds to the physiology and cell biology major in place prior to anticipated revisions.

In this major, physiology is considered in the context of those aspects of cell biology that relate to an understanding of the integrated function of organ systems in whole organisms. Two concentrations, sharing a common core of preparative courses, have been designed. Completion of the concentration will not be formally acknowledged on official transcripts or diplomas. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; Chemistry 6A-B and either Chemistry 8A-B-C or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B; *and* one of the following: Mathematics 3C or 7C or Biology 30 or PSTAT 5A; Physics 6A-AL-B-BL-C-CL.

Upper-division major. Forty-two upper-division biological sciences units, including Biology 130A-B, Biology 137, and Biology 108A-B and 109L plus the following requirements in either the physiology or the cell biology concentration.

Physiology concentration. Biology 105; Zoology 154; at least one course in endocrinology (Zoology 155, 156, or Biology 119B); and at least two of the following: Biology 101, 106; Zoology 143-143L; Botany 120.

Cell biology concentration. At least two courses in physiology (Biology 105; Botany 120; Zoology 154, 155, 156); at least one course in either developmental biology or immunology (Biology 123-123L; Zoology 100-100L, Botany 111-112L); at least one of the following: Biology 101, 106, 139, or 173.

Additional upper-division courses offered in the Department of Biological Sciences may be necessary to bring upper-division major total to 42. *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.* Recommended courses: Biology 104, 119A, 119C, 119AL, 119BL, 128-128L, 132, 140-140L, 151, 161; Zoology 108, 112A, 112B; Psychology 133A-B, 137.

Zoology Major

The zoology major is designed to provide an understanding of animal structure and diversity, evolutionary relationships, functional systems, and environmental relationships, with an option of specialization in either organismal or population biology.

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL; 6A-B and either 8A-B or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B, and one of the following: PSTAT 5A or Biology 30 or Math 3C or 7C; Physics 6A-AL-B-BL-C-CL.

Upper-division major. Thirty-eight upper-division units are required, including at least one course or course sequence from Areas A, B, and C, and two courses from Area D below. *Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.*

Area A. Genetics: Biology 130A-B

Area B. Physiology: Biology 100 or Zoology 143-143L

Area C. Development or Ecology or Evolution: Zoology 100-100L; or Zoology 113A-AL or Biology 120; or Biology 131.

Area D. Diversity and Systematics: two courses from: Zoology 105, 108, 111, 112A, 112B, 130, 161.

Area E. Additional upper-division courses offered within the Department of Biological Sciences electives to bring unit total to 38. *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.*

Bachelor of Science—Pharmacology

Note: hyphenated sequences must be completed in full in order to fulfill an area requirement.

Preparation for the major. Biology 4A-B-C (formerly Biology 1, 2, 3) (transfer students must consult their adviser regarding appropriate portions of Biology 4AZ, 4BZ, or 4CZ); Chemistry 1A-AL-B-BL-C-CL or 1A-AL-2B-BL-2C-CL, 6A-B-C, and either 8A-B-C or 130A-B-C; Mathematics 3A-B or 3A and 7B or 34A-B; *and* one of the following: Mathematics 3C or 7C or Biology 30 or PSTAT 5A; Physics 6A-AL-B-BL-C-CL. *Note: General Education requirements for the B.S. degree are different from those for the B.A. degree. See the introductory portion of this chapter for details.*

Upper-division major. Fifty-four upper-division biological sciences units are required, as follows: Introductory Genetics (Biology 130A); General Genetics (Biology 130B); Neurobiology (Biology 105); Vertebrate Physiology (Zoology 154 and 155); Pharmacology (Biology 119A-AL-B-BL-C); Biochemistry (Biology 108A-B-C, 109L).

Suggested additional electives include Population Genetics (Biology 130C); Microbiology (Biology 104, 128); Basic Immunology (Biology 123); Pharmacology Colloquia (Biology 169); Vertebrate Evolutionary Morphology (Zoology 108); Analytical Chemistry (Chemistry 150-150L); Design of Experiments (PSTAT 122); Electronics for Science Students (Physics 127A-B). *Note: Biology 184, 191, and 193 do not count toward upper-division major credit.*

Senior Honors Program

Students with outstanding academic records in biological sciences are encouraged to apply for the senior honors program early in the fall quarter of the senior year. The honors program centers on an independent research project carried out in one of the departmental research groups (Biology 199), and the preparation of a written report or thesis. Eligibility requirements and applications are available from the undergraduate adviser.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB." Graduate study in the Department of Biological Sciences is organized into two divisions:

(1) Ecology, Evolution, and Marine Biology;

(2) Molecular, Cellular, and Developmental Biology.

Admission

All applicants must fulfill the general requirements for admission to graduate status. In addition, foreign students whose native language is not English are required to obtain a minimum score of 550 on the Test of English as a Foreign Language (TOEFL) prior to admission. An exception to the TOEFL requirement is made for students who received a degree from an institution in the United States. The general test (verbal, quantitative, and analytical) of the Graduate Record Examination is required of all applicants. For those who apply for admission to the Division of Molecular and Cellular Biology, one of the following three subject tests is also required: biochemistry, cell and molecular biology; or biology; or chemistry.

A candidate for the master's degree must fulfill, in addition to general university requirements, the minimum lower- and upper-division requirements or their equivalents for the major in their field of emphasis. Students admitted with deficiencies will normally be allowed to rectify them early in their graduate studies.

Prospective candidates for the degree of Doctor of Philosophy in biology must normally have the bachelor's degree in one of the biological sciences, with a preparation deemed equivalent to that required for the bachelor's degree from UCSB. Students who are admitted to graduate standing with deficiencies in preparation will be required to take appropriate undergraduate courses.

All doctoral candidates must qualify for and hold a teaching assistantship for the equivalent of two quarters as part of the preparation for the Ph.D. degree. Each prospective candidate must take two qualifying examinations administered by one of the two divisions within the department. Each candidate must complete a doctoral dissertation under the general supervision of a committee and must take a final oral examination. With the approval of the candidate's doctoral committee, the final oral examination may be waived in lieu of a scheduled departmental seminar.

University and regents' fellowships, teaching assistantships, and research assistantships are available for a limited number of qualified candidates. Qualified applicants may be awarded funds to cover out-of-state tuition. It is the current policy of the department to limit out-of-state tuition fellowships to 6 quarters. Applications and all supporting materials for the above merit-based financial support must be submitted by January 15.

Division of Molecular, Cellular, and Developmental Biology

Graduate-level research in the Division of Molecular, Cellular, and Developmental Biology spans a wide range of topics including biochemistry, cell biology, cell physiology, developmental biology, gene regulation, genetics, immunology, microbiology, molecular marine biology, neurobiology, pharmacology, plant molecular biology, plant physiology and virology.

Requirements for the M.A. Two plans are available. Under Plan 1 (thesis), students are required to successfully complete: (1) a research thesis; and (2) a minimum of 30 units of coursework. The units may be taken in graduate or upper-division courses in the major subject; at least 12 units will normally be in the 200 and 500 series, excluding 597 and 598; of these, at least 9 graduate units must be completed in the 200 nonseminar courses. Courses outside the major may be substituted upon written approval of the divisional graduate adviser. No unit credit is allowed for the thesis. Under Plan 2 (comprehensive examination), students are required to successfully complete: (1) the 218A-B-C core series (with a grade of B or better for each course); (2) a total of at least 36 units of upper division and graduate courses in the major subject (with a grade of B or better), of which at least 18 units will normally be in the 200 and 500 series, excluding 597 and 598. Courses outside the major may be substituted upon written approval of the divisional graduate adviser; and (3) two written examinations in any two of the following areas: cell biology and physiology, developmental biology, gene regulation, nucleic acid structure and function, protein structure and function, immunology, microbiology, neurobiology, pharmacology, plant molecular biology and physiology or virology. Under either plan, no more than one-half of graduate units may be in 596 courses.

Requirements for the Ph.D. Students who entered the department with a specialization in biochemistry-molecular biology or physiology-cell biology prior to or during the 1992-93 year should consult the divisional graduate adviser regarding the requirements of their respective programs. The following unified requirements, in addition to the research thesis, apply to all students entering the divisional Ph.D. program in molecular, cellular, and developmental biology after the 1992-93 academic year: (1) students must pass two qualifying examinations, each consisting of a written research proposition followed by an oral defense of the proposition. These examinations will normally be taken at the beginning of the second and third years of graduate study, respectively. The first proposition will deal with an area of molecular and cell biology distinct from the student's anticipated dissertation research, while the second proposition will be focused on the student's dissertation project; (2) the student must pass, with a grade of B or better, the 218A-B-C graduate core courses and one additional graduate level, non-seminar course; and (3) students are expected to participate fully in the seminar programs of the division (with the advice of the division's graduate adviser).

Division of Ecology, Evolution, and Marine Biology

Requirements for the M.A. A major emphasis must be selected from the list of specialized areas presented below under "Requirements for the Ph.D.," but the minor emphasis may be selected from this list or from appropriate disciplines in other sections or departments. Two plans of study are available for the M.A.

Under Plan 1 (thesis), a minimum of 30 quarter-units and a thesis are required. The units may be taken in graduate or upper-division courses in the major subject; at least 12 units must be in the 200 and 500 series, excluding 597 and 598. No more than half the graduate-level units may be in the 596 series. Courses outside the major may be substituted upon written approval of the student's advisory committee. No unit credit is allowed for the thesis.

Under Plan 2 (comprehensive examination), a minimum of 36 units of upper-division and graduate courses in the major subject are required, at least 18 of which must be in the 200 and 500 series, excluding 597 and 598. No more than half the graduate-level units may be in the 596 series. Courses outside the major may be substituted upon written approval of the student's advisory committee. The comprehensive examination will cover a major and a minor area of emphasis. The major area must be selected from the list below; the minor emphasis may be selected from this list or, with written approval of the committee, from appropriate disciplines in other divisions or departments.

Requirements for the Ph.D. Students select, with the approval of their advisory committee, two areas of emphasis. One emphasis must be selected from the list below; the other may be selected from the list, or from appropriate disciplines in other divisions or departments. Students must then pass a written comprehensive exam in each of the two areas of emphasis. In addition, an oral qualifying examination must be taken before the end of the seventh quarter following matriculation in the Graduate Division.

1. Ecology with Ecosystem, Evolutionary, Physiological, Plant Community, or Population emphases
2. Algal Physiology, Ecology, and Systematics
3. Behavioral Ecology
4. Biology of Arthropods
5. Biology of Deep Sea Animals
6. Biological Oceanography
7. Bioluminescence
8. Ichthyology
9. Invertebrate Biology
10. Limnology
11. Macroevolution
12. Mathematical Biology
13. Parisitology
14. Plant Systematics and Evolution (Biochemical Systematics, Biosystematics, Taxonomy)
15. Population Genetics
16. Stream Ecology
17. Vertebrate Evolution, Morphology, and Systematics
18. Comparative Physiology
19. Endocrinology

Interdepartmental Program of Graduate Studies in Biochemistry and Molecular Biology

For details see catalog entry under Biochemistry and Molecular Biology.

Biology Courses

LOWER DIVISION

4A. Introductory Molecular Biology and Physiology
(4) STAFF
Prerequisites: Chemistry 1A-B-C. Not open to students who have completed Biology 3 or 11A. Lecture, 3 hours; laboratory, 3 hours.

Introduction to cell structure, metabolism and cell and organismal physiology. (F)

4AZ. Selected Topics from Biology 4A
(1-2) STAFF
Prerequisite: consent of department.

Designed for transfer students who have completed part of Biology 4A through transfer work. Topics will be selected by the department, as appropriate, to fulfill the introductory biology requirement at UCSB.

4B. Introductory Genetics, Ecology, and Evolution
(4) STAFF
Prerequisite: Biology 4A. Not open to students who have completed Biology 1. Lecture, 3 hours; laboratory, 3 hours.

A survey of the principles involved in Mendelian and molecular genetics and development. Population and community ecology and evolution. (W)

4BZ. Selected Topics from Biology 4B
(1-3) STAFF
Prerequisite: consent of department.

Designed for transfer students who have completed part of Biology 4B through transfer work. Topics will be selected by the department, as appropriate, to fulfill the introductory biology requirement at UCSB.

4C. Biology of Organisms
(4) STAFF
Prerequisite: Biology 4A-B. Not open to students who have completed Biology 2 or 11C. Lecture, 3 hours; laboratory, 3 hours.

Introduction to the major groups of microbes, plants, and animals. (S)

4CZ. Selected Topics from Biology 4C
(1-2) STAFF
Prerequisite: consent of department.

Designed for transfer students who have completed part of Biology 4C through transfer work. Topics will be selected by the department, as appropriate, to fulfill the introductory biology requirement at UCSB.

4FS. Freshmen Seminar in Biological Sciences
(1) STAFF

Selected topics of special interest designed to display the broad diversity of the biological sciences. This course is strongly recommended for freshmen and/or prospective majors within the Department of Biological Sciences.

20. Concepts of Biology
(4) STAFF
Prerequisites: not open for credit toward graduation to students who have completed Natural Science 1C. Not ordinarily open to majors in the Department of Biological Sciences for credit toward graduation. Lecture, 3 hours; discussion, 1 hour.

Unifying principles of biology; cell structure, functions, and energy relations; cybernetics, natural selection, evolution; reproduction and the principles of genetics and development; nature and growth of populations. (S)

21. The Immune System and AIDS
(3) EARDLEY
Not ordinarily open to majors in biological science for credit. Lecture, 3 hours.

This course will cover three areas: the basic properties of the immune system will be described in the first third of the course. The second third will be the basic biology of AIDS and AIDS virus infection. The third part of the course will cover the biology of other sexually transmitted diseases. (W)

23. Human Development and Reproductive Physiology
(4) COLLINS, STAFF
Not ordinarily open to majors in the Department of Biological Sciences for credit. Lecture, 3 hours; discussion, 1 hour.

Human development with emphasis on events occurring prior to parturition. Hormonal devices involved in human reproduction. Comments on senescence and carcinogenesis. (F)

24. Aquatic Ecology
(4) WARNER, STAFF
Not open to majors in Biological Science. Lecture, 3 hours; discussion, 1 hour.

Introduction to the ecology of plants and animals which live in aquatic environments, including a survey of marine and freshwater environments and the organisms which live in them, and stressing the interactions of the biota with their environments. Course will discuss the approaches that aquatic biologists use to answer ecological questions, and examine ecological principles which have emerged from the study of aquatic communities. (F)

25. Marine Biology

(4) STAFF

Not ordinarily open to majors in the Department of Biological Sciences for credit. Lecture, 2 hours; laboratory, 8 hours.

An introduction to the unifying principles of biology, using marine plants and animals and their adaptations to life in the sea as examples of biological order and continuity. (W; Not offered 1993-94)

28. The Biology of Aging

(4) ROSS

Not ordinarily open for credit to majors in Biological Sciences. Lecture, 3 hours; discussion, 1 hour.

Concepts of cell, human and polulation aging, emphasizing biological research in aging problems and the social, ethical and political consequences of aging studies. (F)

30. Concepts in Statistics

(4) ENDLER, STEWART-OATEN

Prerequisites: Mathematics 3A-B or 7A-B or 34A-B or equivalent. Lecture, 3 hours; laboratory, 3 hours.

Non-mathmatical introduction to basic ideas in statistics, such as replication, controls, randomization, random sampling, the repeated sampling principle, chance models. Includes descriptive statistics, laws of large numbers, normality, confidence intervals, regression and correlation, hypothesis tests, elementary computing and simulation. (F, W)

91A. Biological Aspects of Health and Disease I

(2) KOHL, STAFF

Seminar, 2 hours; discussion, 2 hours.

This course focuses on the treatment and prevention of common upper respiratory infections and coronary heart disease. Health professioanls teach blood pressure measurement and throat culture skills. Students will be required to demonstrate patient educator skills. (F,W,S)

91B. Biological Aspects of Health and Disease II

(2) KOHL, STAFF

Prerequisite: Biology 91A and consent of instructor. Seminar, 1 hour; field, 5 hours.

Seminars will emphasize the analysis and delivery of health care information, elaborating upon topics initiated in Biology 91A. Field placement is within Student Health Services as a patient educator. Focusing on upper respiratory infections, students will be required to take throat cultures. (F,W,S)

91C. The Biology of Health and Disease III

(2) KOHL, STAFF

Prerequisites: Biology 91A and consent of instructor. Lecture, 1 hour; field, 5 hours.

Seminars emphasize the analysis and delivery of health information, elaborating upon topics initiated in Biology 91A. Field placement is within Student Health Services as a patient educator. Focusing upon prevention of cardiovascular disease, students will take blood pressure measurements. (F,W,S)

92ABC. Special Topics in Biology

(1) FEINSTEIN

Prerequistes: Concurrent enrollment in Biology 4A, participation in Biology Acheivement Program, and consent of instructor.

A) An enrichment course for students considering careers in biomedical sciences B) Continuation of Biology 92A. C) Continuation of Biology 92A-B.

98. Readings in Biological Sciences

(1-3) STAFF

Prerequisites: (1) minimum 3.0 cumulative grade-point average; (2) consent of instructor and department. May be repeated for credit to a maximum of 6 units. No credit allowed toward the major. Tutorial, 1 hour.

Special readings on selected topics in biology. Individual conferences one hour every week. Designed to broaden the outlook and experience of advanced lower-division students. Hours and credit by arrangement with any member of the staff.

99. Introduction to Research

(1-3) STAFF

Prerequisites: (1) minimum 3.0 cumulative grade-point average; (2) consent of instructor and department. May be repeated for credit to a maximum of 6 units. No credit allowed toward the major. Tutorial, 3-9 hours.

Laboratory experience for advanced lower-division students. Hours and credit by arrangement with any member of the staff.

UPPER DIVISION

100. Introduction to Physiology

(4) FISHER, STAFF

Prerequisite: Biology 4A or equivalent. Lecture, 3 hours; discussion, 1 hour.

Structural and functional characteristics of membranes will be studied in relation to cellular communication. The electrical properties of the neuron, synaptic transmission, sensory and motor pathways of the central nervous system, and some neural and hormonal visceral motor pathways will be studied. (F)

101. General Physiology

(3) STAFF

Prerequisites: Biology 4A-B-C or equivalent and organic chemistry with laboratory. Lecture, 3 hours.

Chemical and physical principles which govern some properties of living matter and its interaction with the environment. (W; Not offered 1993-94)

104. General Microbiology

(6) LEE

Prerequisites; Biology 4A-B-C or equivalent; Chemistry 8A-B and 6A-B, or 130A-B-C and 6A-B. Lecture, 3 hours; laboratory, 6 hours; laboratory workshop, 3 hours.

An introduction to the biological properties of microorganisms; the historical foundations of the field; a study of the major groups of microorganisms; their structure, cultivation, and pathogenicity. Laboratory experiments dealing with the isolation, cultivation, and enrichment of diverse microorganisms. (F)

105. Neurobiology I

(4) CASE, FISHER, VANDENBERG

Prerequisite: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

Properties of the nervous system ranging from single cells to the whole organism, using examples from vertebrates and invertebrates studied in terms of morphology, physiology, and behavior. (W)

106. Molecular and Cellular Developmental Neurobiology

(4) CLEGG, FEINSTEIN

Prerequisites: Biology 4A-B-C or equivalent). Lecture, 3 hours; discussion, 1 hour.

Presents current understanding of rapidly evolving field of developmental neurobiology, emphasizing molecular and cellular perspectives. Topics include regulation of neural gene expression and gene cloning, neural growth factors, neurotransmitter receptors, axon pathfinding, synapse formation, learning and memory, and neural diseases. (S)

108A. General Biochemistry

(4) SEARS, TABORSKY

Prerequisites: Chemistry 130A-B-C and 6A-B (or Chemistry 8A-B-C) and 6A-B).

Chemistry of proteins; enzymic catalysis; bioenergetics. An evening movie/slide presentation is an optional portion of this course; attendance is strongly recommended. (F)

108B. General Biochemistry

(4) CLEGG

Prerequisite: Biology 108A. Lecture, 3 hours; discussion, 1 hour.

Cellular biochemistry; metabolic pathways responsible for the generation of cellular energy and the biosynthesis of, and localization of, cellular components; biochemistry of transmembrane signaling and cancer; metabolic regulatory mechanisms. (W)

108C. General Biochemistry

(4) CLARKE

Prerequisites: Biology 108A-B. Lecture, 3 hours; discussion, 1 hour.

Chemistry and metabolism of nucleic acids; biosynthesis of proteins; biochemical genetics. (S)

109L. Laboratory in Biochemistry

(4) POOLE

Prerequisites: Biology 108A-B. (Biology 108B may be taken concurrently). Labratory, 6 hours; tutorial, 6 hours.

Laboratory techniques in biochemistry. Emphasis is on techniques used in modern protein and nucleic acid biochemical research, and includes aspects of the use of computer analysis and recombinant DNA techniques in modern biochemistry. (W,S)

114. The Nature of Biological Research

(3) WENNER

Prerequisites: A college-level biology course and upper-division standing. Lecture, 3 hours.

Biological scientists conduct their research within certain strictures; they follow unwritten codes and rules which differ in various subdisciplines. This course treats selected examples in biological research in terms of the philosophy, sociology, psychology, and politics of science. (W; not offered 1993-94)

115. Plant Molecular Biology

(3) CHRISTOFFERSEN, J. COOPER

Prerequisites: Biology 108A-B-C or Biology 118, and Biology 130A-B, or consent of instructor. Lecture, 3 hours.

The molecular biology of vascular plants. Emphasis will be on the molecular mechanisms by which external and internal factors control development. Plant-microbe interactions and practical applications of transgenic plants will also be considered. (F; Not offered 1993-94)

118. Principles of Biochemistry

(4) TABORSKY

Prerequisites: Chemistry 1A-B-C, Chemistry 8A-B and 6A-B or consent of the instructor. Not for majors in biochemistry-molecular biology, pharmacology, or physiology-cell biology. Lecture, 3 hours; discussion, 1 hour.

An introduction to molecular structures and mechanisms of living systems. (S)

119A. Basic Pharmacology

(4) JACOBS

Prerequisites: Biology 130A (may be concurrent enrollment), Chemistry 130A-B-C (or Chemistry 8A-B and 6A-B), or consent of instructor. Not open for credit to students who have completed Biology 110A. Lecture, 3 hours; discussion, 1 hour.

Designed to provide the student with a comprehensive knowledge of the history and scope of pharmacology as a basic science. The principles of drug action and the relationship of pharmacology to physiology, chemistry, and biochemistry are emphasized. (F)

119AL. Pharmacology Laboratory I

(3) JACOBS

Prerequisites: concurrent enrollment in Biology 119A. Not open for credit to students who have completed Biology 110BL. Discussion, 1 hour; laboratory, 8 hours.

Analysis of drug sites and mechanisms of action using isolated tissues, organs, and intact animal preparations. (F)

119B. Basic Pharmacology

(4) VANDENBERG

Prerequisites: Biology 130A (may be concurrent enrollment), Chemistry 130A-B-C (or Chemistry 8A-B and 6A-B), or consent of instructor. Not open to students who have completed Biology 110B.

Pharmacology of neurotransmitter and hormone receptors; molecular and cellular mechanisms, of drug-receptor interactions; receptor signalling mechanisms. (W)

119BL. Pharmacology Laboratory II

(3) VANDERBERG

Prerequisite: concurrent enrollment in Biology 119B. Not open for credit to students who have completed Biology 110CL.

An introduction to molecular techniques in pharmacology; drug-receptor binding; pharmacokinetics and metabolism; techniques to evaluate potency, concentration and effects of hormones and hormone agonists and antagonists. (W)

119C. Basic Pharmacology
(4) WILSON

Prerequisites: Biology 130A (may be concurrent enrollment) or consent of instructor. Not open for credit to students who have completed Biology 110C. Lecture, 3 hours; discussion, 1 hour.

Fundamental principles of pharmacology, drug receptor theory, biochemical mechanisms of action of drugs. (S)

120. Introduction to Ecology
(4) HOLBROOK, MURDOCH

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

Major concepts in population and evolutionary ecology. Theoretical, experimental, and field studies pertaining to population growth and regulation, competition, predation, diversity, adaptation, and life history strategies. (F)

120AL-BL. Field and Laboratory Studies in Ecology
(3-3) HOLBROOK, MURDOCH

Prerequisites: Biology 120 (may be taken concurrently) or its equivalent. Both Biology 120AL and 120BL must be taken; grades for both will be assigned upon successful completion of Biology 120BL.

Practical studies in ecology in both field and laboratory. Individual projects will be emphasized. (F,W)

122. General Animal Virology
(4) SAMUEL

Prerequisite: Biology 130A or consent of instructor. Biology 104 and 108A-B-C are recommended. Lecture, 3 hours; discussion, 1 hour.

An introduction to the biology of animal viruses with emphasis on the biochemical and biophysical properties of viruses; the mechanisms by which animal viruses replicate; the cellular effects of, and response to, viral infection; and selected aspects of medical virology. (S)

123. Molecular and Cellular Immunobiology
(4) SEARS

Prerequisite: Biology 130A or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Introduction to, and evaluation of, the current concepts of immunology. Emphasis will be placed on immunoglobulin structure and function, cell-cell cooperation in the immune response, and the role of the major histocompatibility complex in regulating immune responsiveness. (W)

123L. Molecular and Cellular Immunobiology Lab
(2) SEARS

Prerequisite: concurrent enrollment in, or completion of, Biology 123, or consent of instructor. Laboratory, 6 hours.

Introduction to modern laboratory methods in immunology; properties and characterization of immunoglobulins and immunoglobulin-secreting cells; introduction to hybridoma technology; characterization of effector and regulatory T cells using functional assays. (S)

124. Advanced Topics in Immunobiology
(1) SEARS

Prerequisite: Biology 123 and consent of instructor. Seminar, 1 hour.

Weekly seminar presentations by students of selected topics in contemporary immunology of the students' choice. The course format will allow students an in-depth analysis of current advances in immunology and unresolved dilemmas in our understanding of the immune system. (S; Not offered 1993-94)

128. Microbial Physiology and Genetics: Regulation of Gene Expression and Metabolism
(3) STAFF

Prerequisites: Biology 130A; Biology 104 recommended but not required. Concurrent enrollment in Biology 128L required. Lecture, 3 hours.

By a study of the original literature we will trace the interplay of hypotheses and experiments in the development of our current concepts regarding gene expression and carbohydrate transport, and the interaction of these phenomena in the regulation of metabolism. This course is offered concurrently with Biology 228, but will have clearly differentiated performance criteria and goals. (W)

128L. Microbial Physiology and Genetics Laboratory: Regulation of Metabolism
(3) STAFF

Prerequisite: concurrent enrollment in Biology 128 required. Laboratory, 6 hours; discussion, 1 hour.

An introduction to the experimental approach in the study of the regulation of gene expression and metabolism. This course is offered concurrently with Biology 228L, but will have clearly differentiated performance criteria and goals. (W)

129. Medical Microbiology
(3) EARDLEY

Prerequisite: Biology 4A-B-C or equivalent. Lecture, 3 hours.

The characteristics of bacteria, rickettsia, and viruses, both pathogenic and adventitious, are studied as they are associated with diseases of humans. (S)

129L. Medical Microbiology Laboratory
(2) EARDLEY

Prerequisite: Biology 104 or equivalent. Laboratory, 6 hours.

An introduction to infections of human organ systems. Modern techniques in the identification of pathogenic microorganisms are emphasized. Effective culturing and proper handling techniques of pathogenic organisms are applied. (S; Not offered 1993-94)

130A. Introduction to Modern Genetics
(4) MORSE, ORIAS

Prerequisites: Biology 4A-B-C or equivalent; Chemistry 1A-B-C. Lecture, 3 hours; discussion, 1 hour.

Structure, function, evolution, and manipulation of genetic material. Basic mechanisms of DNA and RNA evolution, replication, modification, recombination, complementation, exchange, expression, and their regulation in prokaryotes (bacteria, plasmids, viruses). Recombinant DNA technology in research, medicine, agriculture, population biology, and industry. (F,S,SS)

130B. General Genetics
(4) POOLE, CHRISTOFFERSEN

Prerequisite: Biology 130A. Lecture, 3 hours; discussion, 1 hour.

Introduction to the transmission and expression of genetic material as it occurs in nucleate organisms from yeast to man. The genetic biology of eukaryotes is considered on the molecular, cellular, developmental, familial, and population levels, with emphasis on inferences drawn from experiments and observations. (W)

130C. Population Genetics
(4) ENDLER

Prerequisite: Biology 130B or 4B or equivalent, or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

The consequences of Mendelian principles in diploid populations, including quantitative genetics; genetic correlations, gene frequency, change under selection, the effects of mutation on populations, gene interactions in fitness, and ecological genetics. (S)

131. Principles of Evolution
(4) SWEET

Prerequisites: Biology 4A-B or equivalent, or Geology 2 and 3. Same course as Geology 121. Lecture, 3 hours; discussion, 1 hour.

A foundation course concerning the mechanisms of evolution at micro- and macroevolutionary levels, and interpretation of the resulting patterns of adaptation and organic diversity. (W)

132. Recombinant DNA Methods
(6) LEE

Prerequisites: Biology 104, 130A-B, 118 (or Biology 108A-B-C). Laboratory, 6 hours; tutorial, 6 hours; discussion, 2 hours.

Basic techniques of molecular cloning: propagation and maintenance of bacteria and viruses, isolation of plasmid DNA, agarose/acrylamide gel electrophoresis, restriction endonucleases, transformation and transfection, analysis of recombinant clones, nucleic acid hybridization. (S)

137. Cell Biology
(4) STAFF

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

An introduction to the structure and function of cell organelles: membranes, nucleus, mitochondria, chloroplasts, endoplasmic reticulum, golgi apparatus, lysosomes, microbodies, microtubules, cilia, centrioles, and microfilaments. (F)

139. Cell Structure and Function
(4) STAFF

Prerequisite: Biology 137. Lecture, 3 hours; discussion, 1 hour.

Advanced studies of the structure and function of subcellular components. (W; Not offered 1993-94)

140. Mammalian Cells in Culture
(3) BALLESTER

Prerequisites: Biology 104, 128, 130A, or consent of instructor, and one quarter of biochemistry. Lecture, 3 hours.

It is virtually impossible to study mammalian cells in culture without coming to grips with the problem of malignancy. This course will cover the fundamental properties of the mammalian cell in culture and the relationship of these properties to cancer. The following topics will be covered: the establishment of characterization of primary cell cultures and cell lines, nutritional requirements, factors affecting the growth of normal and malignant cells, genetics. This course is offered concurrently with Biology 241, but will have clearly differentiated performance criteria and goals. (W)

140L. Mammalian Cells in Culture Laboratory
(2) STAFF

Prerequisites: concurrent enrollment in Biology 140 or previous enrollment and consent of instructor. Laboratory, 6 hours.

Individual projects designed to familiarize the student with the basic methodology of cell culture. This course is offered concurrently with Biology 241L, but will have clearly differentiated performance criteria and goals. (F; not offered 1993-94)

141. Biology of the Marine-Land Interface
(4) STAFF

Prerequisite: one year of general biology. Lecture, 2 periods; discussion, 1 period; laboratory, 6 hours.

Influence of physical factors on adaptations of shoreline organisms with emphasis on the arthropods. (SS)

142. Marine Microbiology
(4) DELONG

Prerequisites: Biology 4A-B-C; Chemistry 1A-B-C; Biology 145A-B or Biology 104 strongly recommended. Lecture, 3 hours; discussion, 1 hour.

Course explores evolution, ecology, biochemistry, and genetics of marine bacteria. Topics include: historical perspective, molecular approaches in microbial ecology, trophic interactions/biogeochemistry, physiological adaptations, and biochemistry and genetics of selected systems (bioluminescence, deep-sea adaptations, cell-surface interactions, starvation survival). (W)

145A. Environmental Processes in Oceans and Lakes
(4) MELACK, PREZELIN

Prerequisites: Biology 4 A-B-C, or equivalent, or Geography 3, or consent of instructor. Same course as Geography 111. Lecture, 3 hours; discussion, 1 hour.

A discussion of biological, chemical, physical, and optical processes in marine and freshwater environments and the linkage between these processes. Emphasis on primary production, global biogeochemical cycles, nutrient dynamics, and synoptic mapping of biological and physical patterns. (F)

145AL. Chemical and Physical Methods of Aquatic Environments
(3) MELACK

Prerequisite: Biology 145A or concurrent enrollment. Laboratory, 9 hours.

A survey of physical and chemical methods used by limnologists and oceanographers, supplemented with field observations. (F)

145B. Environmental Processes in Oceans and Lakes
(3) ALLDREDGE, BRZEZINSKI

Prerequisite: Biology 145A or consent of instructor. Lecture, 3 hours.

A continuation of Biology 145A with an emphasis on secondary productivity, ecology of higher trophic levels including zooplankton and fish, food web dynamics, benthic-pelagic coupling, ocean circulation, and biogeographical aspects of pelagic communities. (W)

145BL. Methods of Aquatic Biology
(3) ALLDREDGE, PREZELIN

Prerequisite: concurrent enrollment in or previous completion of Biology 145B. Laboratory, 6 hours; field, 3 hours.

Laboratory and field techniques used to measure various biological processes including productivity, and to sample, identify, enumerate, and culture marine organisms. (W)

145C. Aquatic Communities
(3) S. COOPER, EBELING

Prerequisites: Biology 145A-B; Biology 120 recommended. Lecture, 3 hours.

A survey of the patterns of distribution, diversity, and abundance of species in marine and freshwater communities, with an emphasis on the dynamic interactions which shape these patterns. Applied aspects: fisheries, mariculture. (S)

145CL. Methods of Aquatic Community Ecology
(3) S. COOPER, EBELING

Prerequisite: concurrent enrollment in Biology 145C. Laboratory, 6 hours; discussion, 1 hour.

Experience in the field techniques of aquatic community ecology. (S)

146A. Biometry
(4) STEWART-OATEN

Prerequisites: Mathematics 3A-B or 7A-B or 34A-B or equivalent; and Biology 30 or equivalent. Lecture, 3 hours; discussion, 1 hour.

Linear models and least squares fitting: simple and multiple linear regression; analysis of variance (fixed, random, and mixed models; crossed and nested effects; balanced and unbalanced designs); analysis of covariance, factorial designs; incomplete layouts; use of trans-formations.(W)

146B. Biometry
(4) STEWART-OATEN

Prerequisites: Mathematics 3A-B or 7A-B or 34A-B or equivalent; and Biology 146A or equivalent. Lecture, 3 hours; discussion, 1 hour.

Nonparametric methods; discrete distributions; counted data; other topics from: estimation of population size; multivariate methods; experimental design; time series and repeated measures. (S)

147. Biology of Coral Reefs
(4) TRENCH

Prerequisites: Zoology 112 (or equivalent); Biology 145A-B. Lecture, 3 hours; laboratory, 3 hours.

An intensive discussion of coral reefs, including their paleontology, geomorphology and geochemistry, population biology, and physiology. (S)

148. Ecology of Running Waters
(4) S. COOPER, MELACK

Prerequisite: Biology 145B or consent of instructor. Lecture, 3 hours. Discussion 1 hour.

Review of literature on the physics, chemistry, and biology of running water ecosystems. (W)

148L. Investigations in Stream Ecology
(2) S. COOPER, MELACK

Prerequisite: Biology 145AL. Laboratory, 6 hours.

Introduction to field methods used in lotic ecology. Design and execution of research projects emphasized. (W)

149. Mariculture: Research Frontiers in Farming the Sea
(3) EBELING, MORSE

Prerequisite: upper-division standing. Lecture, 3 hours.

Introduces basic biological principles involved in propagating marine plants/ animals, problems faced in commercializing such efforts, and focus/results of contemporary research, particularly in the area of modern biotechnology, aimed at improving control of reproduction, development, growth, utilization of cultivated species. (S)

150. Biological Oceanography
(3) BRZEZINSKI

Prerequisites: Biology 145A-B and consent of instructor. Lecture, 3 hours.

Current concepts in biological oceanography focusing on the coupling of biotic processes to ocean physics, chemistry and sedimentation. Emphasis on areas of active research with critical evaluation of current and seminal literature. (F)

151. Photosynthesis and Primary Productivity
(3) PREZELIN

Prerequisites: Biology 4 A-B-C or equivalent; Chemistry 1A-B-C; Biology 145A-B. Lecture, 3 hours.

To introduce the process of photosynthesis and discuss the ecological/physiological aspects of determining primary production in aquatic systems. (S)

153. Deep-Sea Biology
(3) CHILDRESS

Prerequisites: Biology 4 A-B-C or equivalent. Lecture, 2 hours; laboratory, 3 hours.

This course considers the biology of midwater and benthic organisms living beneath the euphotic zone. It emphasizes dynamic aspects of biological processes in this unique environment. Surveys of major deep-sea taxa and the history of deep-sea biology are included. (S)

154. Biological Limnology
(3) S. COOPER, MELACK

Prerequisites: Biology 145A and 145B, or equivalent. Lecture, 2 hours; discussion, 1 hour.

Emphasis on plankton dynamics, biogeochemistry of watersheds, paleolimnology, and latitudinal comparisons between temperate and tropical lakes. (Not offered 1993-94)

159. Tropical Ecology
(4) S. COOPER, MELACK

Prerequisite: Introductory ecology (e.g., Biology 120, Biology 145C). Lecture, 3 hours; discussion, 1 hour.

Examination of ecological processes in tropical terrestrial and aquatic environments with emphasis on forests, fishes, and lakes, and including deforestation, fisheries, and public health. (W)

161. Size in Biology
(3) SWEET

Prerequisite: Zoology 108. Lecture, 2 hours; discussion, 1 hour.

An examination of the role played by body size in morphology, physiology, and ecology, stressing the influence of the surface/volume disparity and variation in size on principles of structural and functional design. (F; Not offered 1993-94)

168. Literature in Plant Molecular Biology
(1) CHRISTOFFERSEN, COOPER, FINKELSTEIN

Prerequisites: consent of instructor. Seminar, 1 hour.

Critical reading and presentation of the current literature in plant molecular biology, cell biology and development. (F, W, S)

169. Pharmacology Colloquia
(1) JACOBS, WILSON

Prerequisites: Biology 4A-B-C or equivalent introductory biology course. 1 to 2 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 185 or 192 through 199. Lecture, 1 hour.

Lectures on active research programs in pharmacology in the federal, state, and private research sectors. (W,S)

173. Biology of Fungi
(4) ROSS

Prerequisites: Biology 4 A-B-C or equivalent, Biology 130A (or concurrent enrollment) or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Morphology, development, and genetic systems of fungi and allied protists. The significance of the uniqueness of fungal sexual and genetic mechanisms and the interactions between fungi and other organisms will be stressed, with experimental, biotechnology, and medical aspects emphasized. (W)

177. Preparation for Computer Graphics
(3) STAFF

Prerequisite: upper-division standing; some statistics recommended. Lecture, 3 hours.

A consideration of the various means by which experimental results are represented in journals, including an analysis of all types of graphs, tables, and figures. The validity of accompanying interpretation will also be examined. (F; not offered 1993-94)

179. Modeling Environmental and Ecological Change
(4) NISBET

Prerequistes: Mathematics 34A-B or 3A-B or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

An introduction to mathematical and computer models in studies of the natural envionment. Case studies of interacting physical, chemical and biological phenomena (e.g. effects of global warming on biological communities and populations; effects of toxicants on marine and aquatic ecosystems. (F)

183. Life in the Biosphere
(3) STAFF

Prerequisites: Biology 4A-B-C or equivalent; Chemistry 1A. Lecture, 3 hours.

Discussions of the earth as a living system, including: (1) a study of the impact of the biota on the cycling of essential chemical elements through the atmosphere, oceans, soils, and sediments of the earth; (2) a consideration of the influence of the biota on the earth's energy budget. (S; Not offered 1993-94)

184. Women in Science
(2) EARDLEY

Prerequisites: upper-division standing. This course will not count towards the 39 upper division required units for any of the majors offered in biological sciences. Seminar, 2 hours.

This course will explore the role of women in science. Topics of discussion will include the history of women scientists, the role of women in physical versus biological sciences, and graduate education for women scientists. (Not offered 1993-94)

185. Field Work in Oceanography
(1-8) PREZELIN

Prerequisites: Upper-division courses in Aquatic Biology or Geology, and consent of instructor. May be repeated for a maximum of 8 units; 1-4 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 169 or 192 through 199.

Participation as a member of the scientific party on Scripps Institution (UCSD), NMFS, and UCSB oceanographic cruises. Cruise duration is variable (7 to 60 days), and course units will vary with cruise duration. Supervision by scientific party leader. Report required. (F,W,S,SS)

191. Introduction to Health Care Delivery
(2) KOHL

Prerequisites: upper-division standing; 3.0 grade-point average or consent of instructor. This course will not count towards 38 upper-division required units for any of the majors offered in biological sciences. Lecture, 1 hour; laboratory, 3 hours.

Course conducted at UCSB and Santa Barbara Medical Foundation Clinic will involve series of lectures by UCSB faculty and clinic physicians discussing health care delivery. Students will also spend three hours per week "on call" with medical or surgical specialist at clinic or hospital. (F,W,S)

192. Special Topics in Biological Sciences
(1-4) STAFF

Prerequisites: upper-division standing in biology and consent of instructor. 1-4 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 169, 185, or 193 through 199. May be repeated in satisfaction of unit requirements of student's departmental major but credit for repeated enrollment must be sought by petition. Lecture, 1 to 4 hours.

Special topics of current importance in biological sciences. Course content will vary. Information may be obtained in department office.

193. Internship in Biological Sciences
(1-S) STAFF

Prerequisites: upper division standing, 2.5 grade-point average. Instructor and departmental approval required. Units for this course will not be accepted toward upper-division unit requirement for any major within the Department of Biological Sciences, with the exception of aquatic biology, except by petition. Field, 5-25 hours.

Opportunity to obtain practical biological related research experience by working under faculty direction as an intern with local, state, federal, or private agencies. A written report will be submitted for evaluation.

194AA-ZZ. Group Studies for Advanced Students
(2) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated for maximum of 8 units. 1-4 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 169, 185, or 192 through 199. Enrollment limited. Seminar, 2 hours.

Oral reports by students.

A-B.Biochemistry-Molecular Biology: J. A. Carbon; D. D. Eardley; N. Lee; D. Morse; E. Orias; C. E. Samuel; D. Sears;L. Wilson.

C.Systematics: S. Sweet.

D.Plant Ecology: B. Mahall; S. Mazer.

E.Embryology: D. M. Kohl

F.General Physiology: Staff

I.Phycology: Staff

J.Evolutionary and Behavioral Ecology of Vertebrates: S. I. Rothstein.

N.Plant Physiology: Staff.

O.Ecological Genetics Seminar: J. Endler; S. Mazer.

Q.Aquatic Biology: J. M. Melack; A. Alldredge; S. Cooper; M. Brzezinski.

R.Neurophysiology: J. F. Case.

T.Parasitology: A. Kuris.

U.Biogeography: Staff

V.Mycology: I. K. Ross.

W.Arthropod Biology: Staff

Y.Plant Morphology: Staff

Z.Ecological Physiology: J. J. Childress.

AA.Evolutionary Ecology: R. R. Warner.

BC.Biochemistry - Molecular Biology: J. Cooper

DD.Endocrinology: P. M Collins.

DL.Contemporary Approaches in Marine Biology: E. DeLong.

DM.Marine Biotechnology: D. Morse.

DS.Molecular and Cellular Immunology: D. Sears.

EE.Symbiosis: R. Trench.

EO.Genetics: E. Orias.

ET.Ecological Toxicology: J. Endler; S. Mazer.

EV.Evolutionary Biology: S. Mazer; J. Endler; S. Rothstein; R. Warner.

FF.Photosynthesis: B. Prezelin.

GG.Evolutionary Morphology: S. Sweet.

MB.Oceanography: M. Brzezinski.

19S. Colloquia in Biomedical Research
(1) STAFF

Prerequisites: Biology 4A-B-C or equivalent. Up to 3 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 169, 185, or 192 through 199.

Lectures by UCSB faculty from various departments focused on their current research in a variety of biomedical disciplines.

198. Readings in Biological Sciences
(1-S) STAFF

Prerequisites: a major in biological sciences and consent of instructor and department. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in biological sciences. 1-4 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 169, 185, or 192 through 199. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual conferences one hour every two weeks. Special readings designed to broaden the outlook of students and to knit into a cohesive whole the basic principles underlying the major disciplines in the field. (F,W,S)

199. Independent Studies in the Biological Sciences
(1-S) STAFF

Prerequisites: a major in biological sciences and consent of instructor and department. Students must (1) have attained upper-division standing; (2) have a 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in biological sciences. 1-4 units may apply toward upper-division major requirements to a maximum of 4 units total in combination with courses numbered 169, 185, or 192 through 198. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Tutorial, 1-3 hours; field, 1-5 hours.

Hours and credit by arrangement with any member of the staff. Laboratory or field. (F,W,S)

GRADUATE COURSES

201. Progress in Physiology and Cell Biology
(1) STAFF

Prerequisite: required of all graduate students in the section of physiology and cell biology. Lecture, 1 hour.

Presentation of recent progress in physiology and cell biology by guest speakers, advanced graduate students, and staff. (F,W)

207. General Microbiology
(6) LEE

Prerequisites: Biology 4A-B-C or equivalent; Chemistry 8A-B and 6A-B, or 130A-B-C and 6A-B. Lecture, 3 hours; laboratory, 6 hours; individual laboratory work, 3 hours.

An introduction to the biological properties of microorganisms; the historical foundations of the field; a study of the major groups of microorganisms, with emphasis on the bacteria and viruses; their structure, cultivation, and pathogenicity. Laboratory experiments dealing with the isolation, cultivation, and enrichment of diverse microorganisms. (F)

208. Neurobiology I
(4) CASE, FISHER, VANDENBERG

Prerequisite: Biology 4A or equivalent. Lecture, 3 hours; discussion, 1 hour.

Nervous system properties ranging from single cells to whole organism, using examples from vertebrates/invertebrates studied in terms of morphology, physiology, behavior. Course is the same as Biology 105, but graduate students will do an additional library research project. (W)

209. Molecular and Cellular Developmental Neurobiology
(4) CLEGG, FEINSTEIN

Prerequisites: Biology 4 A-B-C or equivalent; Biology 105 recommended. Lecture, 3 hours; discussion, 1 hour.

Molecular and cellular approaches to developmental neurobiology. This course is the same as Biology 106 but graduate students will be required to do additional reading and writing assignments. (S)

211. Ciliate Biology
(5) STAFF

Prerequisite: consent of instructor. Lecture, 2 hours; seminar, 1 hour.

Conceptual bases for the experimental use of ciliates as models of eukaryotic cells in current frontiers of biology; nuclear differentiation, membrane bioelectrics, cell morphogenesis, and hormone action. An oral presentation of a paper in the recent literature will be required. (W; Not offered 1993-94)

212. Molecular Virology
(3) SAMUEL

Prerequisites: Biology 108A-B-C and 130A-B, or consent of instructor. Lecture, 3 hours.

Consideration of selected animal viruses in terms of structure, mechanism of genetic expression, and effects of viral gene expression on cell function, as well as aspects of the virus-host interaction including viral persistence, interference and interferon. (W; offered odd numbered years)

213B. Nucleic Acid Structure
(3) STAFF

Prerequisites: Biology 108A-B-C and organic chemistry, or consent of instructor. Same course as Chemistry 213B. Lecture, 3 hours.

Structure and dynamics of DNA and RNA: force between bases metal binding, polymorphism, bends and kinks, intercalation, protein-DNA interactions. (S; Not offered 1993-94)

21S. Plant Molecular Biology
(3) CHRISTOFFERSEN, J. COOPER, FINKELSTEIN

Prerequisites: Biology 108A-B-C and 130A-B, or consent of the instructor. Lecture, 2 hours.

The molecular biology of vascular plants. Emphasis will be on the molecular mechanisms by which external and internal factors control development. Plant-microbe interactions and practical applications of transgenic plants will also be considered. (F; Not offered 1993-94)

217. Toxins
(2) JACOBS

Prerequisite: graduate standing. Lecture, 2 hours.

This course covers in detail the pharmacological and toxicological properties of a variety of naturally occurring substances that have been isolated from marine and terrestrial organisms. The use of these substances to analyze physiological and biochemical processes is emphasized. (S; Not offered 1993-94)

218A. Nucleic Acids and Proteins
(S) CARBON, TABORSKY

Prerequisites: Graduate standing in biochemistry-molecular biology or consent of instructor. Same course as BMB 218A. Lecture, 4 hours; discussion, 1 hour.

Properties, structure, and structure function analysis of nucleic acids and proteins; modern methods in nucleic acid research (synthetic and recombinant DNA, in vitro mutagenesis); protein dynamics (folding, transport, covalent, and non-covalent structural adaptations to function). (F)

218B. Molecular & Cellular Biology
(S) CLARKE, LEE, ORIAS, SAMUEL, WILSON

Prerequisites: Graduate standing or consent of instructor. Same course as Biochemistry-Molecular Biology 218B. Lecture, 4 hours; discussion, 1 hour.

Mechanisms of gene expression (transcription, translation, replication) in prokaryotes, eukaryotes, and their viruses (phage lambda, SV40, HIV). Form and function of eurkaryotic cells and their organelles. Nuclear structure and chromatin organization; organization of cytoplasm and cytoskeleton; structure and function of membranes. (W)

218C. Gene Regulation and Development
(S) CHRISTOFFERSEN, CLEGG, FEINSTEIN, FINKELSTEIN, SEARS, TRIPLETT

Prerequisite: Biology 218B or Biochemistry-Molecular Biology 218B. Same course as Biochemistry-Molecular Biology 218C. Lecture, 4 hours; Discussion, 1 hour.

Specialized features of plant cells. Regulation of gene expression during development. Models include prokaryotes (bacteria) and eukaryotes (plants, yeast, ciliates, C. Elegans, Drosophila, sea urchins, mouse), with emphasis on systems that undergo cellular differentiation and cellular rearrangement. (S)

218X. Selected Topics in Gene Regulation and Development
(1-4) ORIAS, POOLE, LEE, SAMUEL, CLEGG

Prerequisite: consent of graduate advisor. Same course as Biochemistry - Molecular Biology 218X. Lec-

ture, 4 hours; discussion 1 hour.

Selected topics in gene regulation and development as appropriate to fulfill the course requirement of graduate students in biochemistry and molecular biology. (S)

218Y. Selected Topics in Molecular and Cellular Biology

(1-4) CLEGG, J. COOPER, WILSON, FEINSTEIN

Prerequisite: consent of graduate advisor. Same course as Biochemistry - Molecular Biology 218Y. Lecture, 4 hours; discussion 1 hour.

Selected topics in molecular and cellular biology as appropriate to fulfill the course requirement of graduate students in biochemistry and molecular biology. (W)

218Z. Selected Topics in the Biochemistry of Nucleic Acids and Proteins

(1-4) CARBON, TABORSKY

Prerequisite: consent of graduate advisor. Same course as Biochemistry - Molecular Biology 218Z. Lecture, 5 hours.

Selected topics in the biochemistry of nucleic acids and proteins as appropriate to fulfill the course requirement of graduate students in biochemistry and molecular biology. (F)

219A. Basic Pharmacology

(4) JACOBS

Prerequisite: consent of instructor. Lecture, 3 hours; Discussion, 1 hour.

History and scope of pharmacology as a basic science; principles of drug action and relationship of pharmacology to physiology, chemistry, biochemistry emphasized. Offered concurrently with Biology 119A; however, graduate student required to present research results and develop new research hypotheses. (F)

219AL. Pharmacology Laboratory I

(3) JACOBS

Prerequisite: concurrent enrollment in Biology 219A. Discussion, 1 hour; laboratory, 8 hours.

Analysis of drug sites and mechanisms of action using isolated tissues, organs, and intact animal preparations. Offered concurrently with Biology 119AL; however, graduate students will present either experimental or theoretical research results and be expected to develop new research hypotheses. (F)

219B. Basic Pharmacology

(4) VANDENBERG

Prerequisite: consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Pharmacology of neurotrasmitter and hormone receptors; molecular and cellular mechanisms of drug-receptor interactions; receptor signalling mechanisms. Offered concurrently with Biology 119B; however, graduate students will present experimental or theoretical research results and be expected to develop new research hypotheses. (W)

219BL. Pharmacology Laboratory II

(3) VANDENBERG

Prerequisites: concurrent enrollment in Biology 219B. Discussion, 1 hour; laboratory, 8 hours.

Introduction to molecular techniques in pharmacology; drug-receptor binding; pharmacokinetics/metabolism; techniques evaluating potency, concentration/effects of hormones/hormone agonists/antagonists. Offered concurrently with Biology 119BL; graduate students will present research results and be expected to develop new research hypotheses. (W)

219C. Basic Pharmacology: Principles and Chemotherapy

(4) WILSON

Prerequisite: consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Fundamental principles of pharmacology, drug-receptor theory, biochemical mechanisms of action of drugs. Offered concurrently with Biology 119C; however, graduate students will present research results and be expected to develop new research hypotheses. (S)

220. Experimental Cytology and Electron Microscopy

(3) STAFF

Prerequisites: Biology 108A-B-C or consent of instructor. Lecture, 1 hour; laboratory, 6 hours.

An introduction to the techniques of structural cytology. (S; not offered 1993-94)

221A-B-C. Techniques in Microscopy

(4-4-4) FISHER, STAFF

This is a three-quarter course. Grade will be assigned upon completion of Biology 221C. Lecture, 3 hours; laboratory, 6 hours.

An intensive laboratory course in sample preparation for, and the use of, light and electron microscopes. Topics will include tissue fixation, specific staining and histochemistry, radioautography, cells in suspension, macromolecules, brightfield, darkfield, phase contrast, and fluorescence microscopy. Transmission and scanning electron microscopy techniques will also be discussed. (F,W,S; Not offered W,S 1993-94)

223. Molecular and Cellular Immunobiology

(3) EARDLEY

Prerequisites: the following courses, or their equivalents, or consent of instructor: Biology 130A-B and Biology 108A-B-C. Lecture, 3 hours.

Introduction to, and evaluation of, the current concepts of immunology. Emphasis will be placed on immunoglobulin structure and function, cell-cell cooperation in the immune response, and the role of the major histocompatibility complex in regulating immune responsiveness. (W; Not offered 1993-94)

224. Advanced Topics in Immunobiology

(2) SEARS

Prerequisite: concurrent enrollment in, or completion of, Biology 223; or consent of instructor. Lecture, 2 hours.

Contemporary developments and controversies regarding the biology of the immune system. (S; Not offered 1993-94)

227. Development and Molecular Biology of Slime Molds and Fungi

(3) ROSS

Prerequisites: Biology 108A-B-C; 130A-B; and consent of instructor. Lecture, 2 hours; discussion, 1 hour.

Current concepts of the control mechanisms regulating cell interactions and differentiation in cellular and plasmodial slime molds and fungi. Emphasis will be on aspects of cell communication leading to sexual and somatic fusions and aggregations; the genetic and nuclear migration basis of sexual distinction will be explored. The techniques and methodology of experimentation on these organisms that has led to them being ideal model systems in modern biology will be discussed. An oral presentation of a research topic in the current literature will be required. (S)

228. Microbial Physiology and Genetics: Regulation of Gene Expression and Metabolism

(3) STAFF

Prerequisite: Biology 130A; Biology 207 is recommended but not required. Lecture, 3 hours.

By a study of the original literature we will trace the interplay of hypotheses and experiments in the development of our current concepts regarding gene expression and carbohydrate transport, and the interaction of these phenomena in the regulation of metabolism. This course is offered concurrently with Biology 128, but will have clearly differentiated performance criteria and goals. (W)

228L. Microbial Physiology and Genetics Laboratory: Regulation of Gene Expression and Metabolism

(3) STAFF

Prerequisite: concurrent or prior enrollment in Biology 228. Laboratory, 6 hours; discussion, 1 hour.

An introduction to the experimental approach in the study of the regulation of gene expression and metabolism. This course is offered concurrently with Biology 128L, but will have clearly differentiated performance criteria and goals. (W)

230C. Population Genetics

(4) ENDLER

Prerequisites: general genetics (Biology 130A and 130B or equivalent). Lecture, 3 hours; discussion, 1 hour.

The consequences of Mendelian principles in diploid populations, including quantitative genetics, genetic correlations, gene frequency, change under selection, the effects of mutation on populations, gene interactions in fitness, and ecological genetics. (S)

235. Advanced Topics in Algology

(2) STAFF

Prerequisites: Botany 170, 171, or consent of instructor. Lecture, 2 hours.

The use of specialized algal species as model systems for research of basic biological problems. (Not offered 1993-94)

236. Biology of Cilia and Flagella

(2) STAFF

Prerequisites: cell biology, biochemistry. Lecture, 2 hours.

The development, structure, and function of cilia and flagella of unicellular and multicellular eukaryotic organisms will be considered. Emphasis will be on problems such as control and coordination, as well as origin and evolution of these organelles. (W; not offered 1993-94)

237. Cell Biology

(4) STAFF

Prerequisites: Biology 4A-B-C, or equivalent. Lecture, 3 hours; discussion, 1 hour.

Introduction to the structure and function of cell organelles: membranes, nucleus, mitochondria, chloroplasts, endoplasmic reticulum, golgi apparatus, lysosomes, microbodies, microtubules, cilia, centrioles, and microfilaments. (F)

239. Cell Structure and Function

(4) STAFF

Prerequisite: Biology 137 or 237. Lecture, 3 hours; discussion, 1 hour.

Advanced studies of the structure and function of subcellular components. (W; Not offered 1993-94)

241. Mammalian Cells in Culture

(3) BALLESTER

Prerequisites: Biology 104, 128, 130A, or consent of instructor, plus 1 quarter of biochemistry. Lecture, 3 hours.

Fundamental properties of mammalian cells in culture and the relationship of these properties to cancer. The establishment of characterization of primary cell cultures and cell lines, nutritional requirements, factors affecting the growth of normal and malignant cells, and genetics will be covered. Offered concurrently with Biology 128, but will have clearly differentiated performance criteria and goals. (F)

241L. Mammalian Cells in Culture Laboratory

(2) STAFF

Prerequisites: Biology 241 or concurrent enrollment, and consent of instructor. Laboratory, 6 hours. Individual projects designed to familiarize the student with the basic methodology of cell culture. This course is offered concurrently with Biology 140L, but will have clearly differentiated performance criteria and goals. (F; Not offered 1993-94)

243. Biological Oceanography

(3) BRZEZINSKI

Prerequisites: Consent of instrutor. Lecture, 3 hours.

Current concepts in biological oceanography focusing on the coupling of biotic processes to ocean physics, chemistry and sedimentation. Emphasis on areas of active research with critical evaluation of current and seminal literature. (F)

245. Advanced Population Biology

(3) NISBET

Prerequisites: an ecology course and consent of instructor. Lecture, 3 hours.

A course dealing in depth with a few selected aspects of population and community dynamics of organisms. Extensive reading of original papers. (S)

246A. Biometry

(4) STEWART-OATEN

Prerequisites: Mathematics 3A-B or 7A-B or 34A-B equivalent, and Biology 30 or equivalent. Lecture, 3 hours; discussion, 1 hour.

Linear models and least squares fitting: simple and multiple linear regression; analysis of variance (fixed, random and mixed models; crossed and nested effects; balanced and unbalanced designs); analysis of covariance, factorial designs; incomplete layouts; use of transformations. (W)

246B. Biometry
(4) STEWART-OATEN
Prerequisite: Mathematics 3A-B or 7A-B or 34 A-B or equivalent, and Biology 246A or equivalent. Lecture 3 hours, Discussion 1 hour.

Nonparametric methods; discrete distributions; counted data; other topics from: estimation of population size; multivariate methods; experimental design; time series and repeated measures. Graduate students will choose special topics, write review, and present it to class. (S)

247A-B Mathematical Biology
(3) STEWART-OATEN
Prerequisite: consent of instructor. Lecture, 3 hours.

Mathematical methods in biology, with particular emphasis on the use of matrices and vector spaces and with applications mainly in population biology, including demography, prey-predator systems, Markov processes, regression, and analysis of variance. (F, W; Not offered 1993-94)

248. Ecology of Running Waters
(4) S. COOPER, MELACK
Prerequisites: Biology 145B, or consent of instructor. Lecture, 3 hours; discussion 1 hour.

Review of literature on the physics, chemistry, and biology of running water ecosystems. (W)

248L. Investigations in Stream Ecology
(2) S. COOPER, MELACK
Prerequisites: Biology 145AL, Zoology 122, and concurrent enrollment in Biology 148. Laboratory, 3 hours; field, 3 hours.

Introduction to field methods used in lotic ecology. Design and execution of research projects emphasized. (W)

249. Mariculture: Research Frontiers in Farming the Sea
(3) EBELING, MORSE
Prerequisite: upper-division or graduate standing in the Department of Biological Sciences. Lecture, 3 hours.

Introduce basic biological principles involved in propagating marine plants/animals, problems faced in commercializing such efforts, and focus/results of contemporary research, particularly in area of modern biotechnology, aimed at improving control of reproduction, development, growth, utilization of cultivated species. (S)

250. Photosynthesis and Primary Production
(3) PREZELIN
Prerequisites: Biology 4A-B-C or equivalent; Chemistry 1A-B-C. Lecture, 3 hours.

To introduce the process of photosynthesis and discuss the ecological/physiological aspects of determining primary production in aquatic systems. (S)

252. Marine Microbiology
(4) DELONG
Prerequisites: Biology 4A-B-C, 104, 118, 145A-B-C; Chemistry 1A-B-C; or equivalent of these courses.

Course explores evolution, ecology, biochemistry, and genetics of marine bacteria. Topics include: historical perspective, molecular approaches in microbial ecology, trophic interactions/biogeochemistry, physiological adaptations, and biochemistry and genetics of selected systems (bioluminescence, deep-sea adaptation, cell-surface interactions, starvation survival). (W)

254. Biological Limnology
(3) S. COOPER, MELACK
Prerequisites: Biology 145A and 145B, or equivalent. Lecture, 2 hours; discussion, 1 hour.

Emphasis on plankton dynamics, biogeochemistry of watersheds, paleolimnology, and comparisons between temperate and tropical lakes. (S; Not offered 1993-94)

255A. Methods in the Characterization of Biological Macromolecules
(3) STAFF
Prerequisites: biochemistry, calculus, physical chemistry, or the consent of instructor. Lecture, 2 hours; discussion, 1 hour.

Introduction to biophysical chemistry. Macromolecular structure and conformation, intermolecular interactions, and multiple equilibria. (Joint listing with the Department of Chemistry.) (F)

255B. Methods in the Characterization of Biological Macromolecules
(3) STAFF
Prerequisite: Biology 255A. Lecture, 2 hours; discussion, 1 hour.

Theory and practice of physical methods employed to study macromolecules. Spectroscopic techniques, including ORD, CD, UV, fluorescence and phosphorescence, NMR, ESR, EM, and x-ray diffraction. (Joint listing with the Department of Chemistry.) (W)

256. Molecular Photosynthesis and Light in Aquatic Ecosystems
(3) PREZELIN
Prerequisite: upper-division courses in aquatic biology and/or optics or consent of instructor. Same course as Geography 256. Lecture, 3 hours.

A lecture course to introduce graduate students to the molecular processes of photosynthesis and the bio-optics of underwater light fields. (W; offered odd-numbered years)

257. Field Studies of Fresh Water Aquatic Ecology
(12) STAFF
Prerequisites: upper-division limnology (or oceanography) with laboratory, and consent of instructor. Lecture, 4-5 hours; laboratory, 10 hours; field, 25 hours.

Basic skills to be developed are a) comparative physical and chemical limnology, b) measurement of primary and secondary standing stock and productivity, c) natural history, and d) field data analysis and interpretation. Streams and lake ecosystems will be examined.

258. Biology and Geology of Coral Reefs
(4) TRENCH
Prerequisites: Biology 4A-B-C or equivalent; Zoology 112A. Lecture, 3 hours; laboratory, 3 hours.

An in-depth discussion of coral reefs, including their paleontology, geomorphology and geochemistry, population biology, and physiology. This course is the same as Biology 147, however graduate students will be expected to write and present an additional research paper. (S)

259. Tropical Ecology
(4) MELACK, S. COOPER
Prerequisite: an introductory ecology course. Lecture, 3 hours; discussion 1.

Examination of ecological processes in tropical terrestrial and aquatic environments with emphasis on forests, fishes, and lakes, and including deforestation, fisheries, and public health. This course will have clearly differentiated performance criteria and goals from Biology 159. (W)

260. Research Seminar in Biochemistry-Molecular Biology
(1) STAFF
Prerequisite: Graduate status. Same course as Biochemistry-Molecular Biology 260. Seminar, 1 hour.

Seminars on research in progress presented by faculty of the Department of Chemistry and the molecular biology-biochemistry section of the Department of Biological Sciences. Required attendance for graduate students in the interdepartmental major in biochemistry-molecular biology and for all graduate students majoring in biochemistry-molecular biology. (F,W,S)

261. Literature in Immunology
(1) SEARS, EARDLEY
Prerequisite: consent of instructor. Lecture, 1 hour.

Critical reading and presentation of recent literature in immunology. (F,W,S)

262. Literature in Molecular Biology
(1) ORIAS
Prerequisite: Same course as Biochemistry-Molecular Biology 262. Discussion, 1 hour.

Critical reading and presentation of the current literature in molecular biology by staff, postdoctoral fellows, and graduate students. Required attendance for graduate students in biochemistry-molecular biology. (F,W,S)

263. Progress in Biochemistry and Molecular Biology
(1) STAFF
Prerequisite: Same course as Biochemistry-Molecular Biology 263. Seminar, 1 hour.

Research seminars presented by invited speakers on current research topics. (F,W,S)

264. Literature in Nucleic Acids
(1) CARBON, ORIAS, CLARKE
Prerequisite: graduate standing. Seminar, 1 hour.

Critical reading and presentation of the recent literature on nucleic acids by staff, postdoctoral fellows, and graduate students. (F,W,S)

265. Literature in Virology
(1) SAMUEL
Prerequisites: graduate status and consent of instructor. Seminar, 1 hour.

Critical reading and presentation of the recent literature on animal viruses and host cells by graduate students, postdoctoral fellows, and staff. (F,W,S)

266. Literature in Neurobiology
(1) POOLE, FISHER
Prerequisite: consent of instructor. Seminar, 1 hour.

Critical reading and presentation of the literature in modern neurobiology. (F,W,S)

268. Literature in Plant Molecular Biology
(1) CHRISTOFFERSEN, J. COOPER, FINKELSTEIN
Prerequisite: graduate standing. Seminar, 1 hour.

Critical reading and presentation of the current literature in higher plant molecular biology, cell biology, and development. (F,W,S)

269. Literature in Pharmacology
(1) JACOBS
Prerequisite: graduate standing in biological sciences. Lecture, 1 hour.

Critical reading and presentation of current literature in topics on pharmacology. (F,W,S)

270. Molecular Marine Biology
(2) MORSE
Prerequisites: genetics and biochemistry, or consent of instructor. Lecture, 1 hour; seminar, 1 hour.

Explores recently successful, modern molecular biological, genetic and biochemical approaches to classical problems in marine biology, related biomedical research, and the identification, utilization, and protection of major marine biological resources. (S; Not offered 1993-94)

273. Biology of Fungi
(4) ROSS
Prerequisites: Biology 4A-B-C or equivalent; Biology 130A (or concurrent enrollment) or consent of instructor. Lecture 3 hours; laboratory, 3 hours.

This course will cover the same topics as Biology 173, and requires in addition individual library research projects and the submission of a written paper. Current research papers will be read and written critiques on fungal development and molecular biology presented. (W)

277. Preparation for Computer Graphics
(3) WENNER
Statistics recommended. Lecture, 3 hours.

Representation of experimental results in journals, graph construction, and interpretation of displays. Offered concurrently with Biology 177; however, graduate students will also analyze and display data from their experiments or from journal publications in their chosen field of research. (F; not offered 1993-94)

279. Modeling Environmental and Ecological Change
(4) NISBET
Prerequisites: Mathematics 34A-B or 3A-B or equivalent or consent of instructor.

An introduction to mathematical and computer models in studies of the natural environment. Case studies of interacting physical, chemical, and biological phenomena (e.g. effects of global warming on biological communities and populations; effects of toxicants on marine or aquatic ecosystems). (F)

280. Ecological Theory
(3) STAFF
Prerequisites: basic course in ecology; knowledge of computer language; mathematics through calculus or matrix algebra. Lecture 2 hours; laboratory, 1 hour.

Exposure to fundamental issues underlying the development of ecological theory and to the content of some of that theory. Laboratory provides experience in the use of computer simulation in ecological theory. (W; not offered 1993-94)

285. Fieldwork in Oceanography
(1-8) PREZELIN

Prerequisites: upper-division courses in aquatic biology and/or geology. Field, variable.

Participation as a member of the scientific party on Scripps Institution (UCSD), NMFS, and UCSB oceanographic cruises. Cruise duration is variable (7 to 60 days), and course units will vary with cruise duration. Supervision by scientific party leader. Report required. (F,W,S,SS)

292. Advanced Special Topics in Biological Sciences
(1-4) STAFF

Prerequisites: graduate standing and consent of instructor. Course may be repeated, but credit for repeated enrollment must be sought by petition. Lecture, 1 to 4 hours.

Special topics of current importance in biological sciences. The content of this course will vary. Information on course content may be obtained in the office of the department.

500. Teaching Assistant Orientation
(1) STAFF

Prerequisite: required of all teaching assistants. No unit credit allowed toward advanced degree. Workshop, 1 hour.

General orientation regarding the University of California and this campus (UCSB); various pertinent regulations, officials and their functions, staff and functions; services available to teaching assistants and to students. Prospective TA's are encouraged to take this course during the fall quarter prior to their employment. (F)

501. Practicum in Instruction
(1-4) STAFF

Prerequisite: concurrent teaching assistant employment. No unit credit allowed toward advanced degree. Field, 3-12 hours.

Practical experience in teaching within specified areas of biochemistry, botany, microbiology, and zoology. Students will have responsibility for one or more laboratory and/or discussion sections. Staff will periodically observe teaching assistants in actual teaching situations. Evaluation forms will be completed by members of the class sections. (F,W,S)

502. Techniques of Teaching and Laboratory Class Supervision
(1-2) STAFF

Prerequisite: concurrent employment as teaching assistant. Required of all teaching assistants. No unit credit allowed toward advanced degree. Discussion, 1 hour.

An initial one-day orientation and workshop followed by weekly discussion. The orientation will concern departmental organization, staff and functions, services available to teaching assistants, and items of general information. (F,W,S)

503. Research Practicum in Biology
(1-2) STAFF

No unit credit allowed toward advanced degree. Tutorial, 1 to 2 hours.

Basic procedures and methods of research in a specified area as determined by consultation between the supervising faculty member and the research assistant. Includes weekly meetings and consultations, and formal evaluations. (F,W,S)

595AA-ZZ. Group Studies
(2) STAFF

Prerequisite: consent of instructor. Seminar, 2 hours.

A critical review of research in selected fields of biology. Subject matter for those seminars will be selected from the following list:

A-B. Biochemistry-Molecular Biology: J. A. Carbon; D. D. Eardley; N. Lee; D. Morse; E. Orias; C. E. Samuel; D. Sears; L. Wilson.

C. Systematics: S. Sweet.

D. Plant Ecology: B. Mahall; S. Mazer.

E. Embryology: D. M. Kohl.

F. General Physiology: Staff.

G. Virology: C. E. Samuel.

I. Phycology: Staff.

J. Evolutionary and Behavioral Ecology of Vertebrates: S. I. Rothstein.

K. Biometry: A. Stewart-Oaten.

L. Cell Evolution and Development: Staff.

M. Reproductive Ecology and Evolution: S. Mazer.

N. Plant Physiology: Staff.

O. Ecological Genetics Seminar: J. Endler.

P. Advanced Population Ecology: W. W. Murdoch; A. Stewart-Oaten.

Q. Aquatic Biology: J. Melack; A. Alldredge; S. Cooper, M. Brzezinski.

R. Neurophysiology: J. F. Case.

T. Parasitology: A. Kuris.

U. Biogeography: Staff.

V. Mycology: I. K. Ross.

W. Arthropod Biology: Staff.

X. Cell Biology: Foltz

Y. Plant Morphology: Staff.

Z. Ecological Physiology: J. J. Childress.

AA. Evolutionary Ecology: R. R. Warner.

AE. Ichthyology Seminar: A. W. Ebeling; R. R. Warner.

BC. Biochemistry - Molecular Biology: J. Cooper

DD. Endocrinology: P. M. Collins.

DL Contemporary Approaches in Marine Biology: E. DeLong.

DM. Molecular Marine Biology and Marine Biotechnology: D. Morse.

DS. Molecular and Cellular Immunology: D. W. Sears.

EE. Symbiosis: R. Trench.

EO. Genetics: E. Orias.

ET. Ecological Toxicology: Staff.

EV. Evolutionary Biology: S. Mazer; J: Endler; S. Rothstein; R. Warner.

FF. Photosynthesis: B. Prezelin.

GG. Evolutionary Morphology: S. Sweet.

LL. Selected Topics on the Philosophy of Science: A. Alldredge.

MB. Biological Oceanography: M. Brzezinski

MM. Contemporary Topics in Biochemistry and Molecular Biology: D. Sears.

NN. Literature in Eukaryotic Molecular Genetics: E. Orias.

596. Directed Reading and Research
(2-12) STAFF

Prerequisites: Consent of instructor. May be repeated for credit up to half of graduate units required for the M.A. degree. Tutorial, 1-4 hours; preparation, 2-12 hours. Same course as Biochemistry-Molecualr Biology 596.

Hours and credit by arrangement with faculty.

597. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations
(1-12) STAFF

Prerequisites: graduate standing and consent of instructor. No unit credit allowed toward advanced degree. Enrollment limited to 24 units per examination. Maximum of 12 units per quarter. Preparation, 2-12 hours.

Individual study for M.A. comprehensive examinations and Ph.D. examinations.

598. Master's Thesis Research and Preparation
(1-2) STAFF

Prerequisites: M.A. (thesis) candidate and consent of committee chair. No unit credit allowed toward advanced degree. Maximum of 12 units total. Preparation, 2-12 hours.

For research underlying the thesis and writing of the thesis.

599. Ph.D. Dissertation Preparation
(1-12) STAFF

Prerequisites: Ph.D. candidate and consent of instructor. May be repeated for credit up to 12 units total. Preparation, 2-12 hours.

For writing of the dissertation.

Botany Courses

LOWER DIVISION

20. General Botany
(4) MAHALL, MAZER

Prerequisite: Not ordinarily open to majors in the Department of Biological Sciences for credit. Lecture, 3 hours; Discussion/lab, 2 hours.

Unifying principles of biology utilizing plants as exemplary material; correlation of structure and function; genetics, selection, and evolution; energy transformation; growth of populations and the relation of plants to man; conservation. (W)

103A. Flora and Vegetation of California
(4) HALLER

Prerequisite: introductory course in botany or biology, or Environmental Studies 13. Lecture, 2 hours; laboratory/field, 6 hours.

An introduction to plant families, species, and communities in California by means of laboratory work and field observations, and including techniques of plant collection and identification. One three-day field trip is required in addition to the regularly scheduled laboratories. (W; not offered 1993-94)

103B. Vegetation and Flora of California
(4) HALLER

Prerequisite: Botany 103A or equivalent. Lecture, 2 hours; laboratory/field, 6 hours.

A continuation of the material in Botany 103A, with increased emphasis on the composition and distribution of plant communities throughout California. Two field trips, three to four days each, are required in addition to the regularly scheduled laboratories. (S; not offered 1993-94)

111. Plant Development
(4) FINKELSTEIN

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

Differentiation and morphogenesis of plants; control by cell-cell interactions, plant growth regulators, genetic and environmental factors. (W; Moving to Fall effective 1994)

112L. Laboratory in Plant Physiology and Development
(2) J. COOPER, FINKELSTEIN

Prerequisite: either Botany 111 or Botany 120 taken previously or concurrently. Laboratory, 6 hours.

Experiments using classical and molecular approaches to plant physiology and development. (S)

113. Plant Anatomy
(5) STAFF

Prerequisites: Biology 4A-B-C or equivalent, or consent of instructor. Lecture, 3 hours; laboratory, 6 hours.

An introduction to the anatomy of vascular plants. Fundamental descriptive, developmental, and comparative aspects of anatomy. (W)

120. Plant Physiology
(4) J. COOPER

Prerequisites: Biology 4A-B-C or equivalent and Chemistry 8A-B or Chemistry 130A-B-C. Lecture, 3 hours; discussion, 1 hour.

Functions of vascular plants; photosynthesis, assimilation, water relations, and growth regulators. (S)

140. General Plant Ecology

(4) MAHALL, MAZER

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

An introduction to the principles of plant ecology. (F)

140L. General Plant Ecology Lab

(2) MAHALL, MAZER

Prerequisites: Biology 4A-B-C or equivalent, and consent of instructor. Laboratory and field, 6 hours.

Field and laboratory research techniques. (F)

141. Physiological Plant Ecology

(4) MAHALL

Prerequisites: Biology 4A-B-C or equivalent, Botany 140, and consent of instructor. A course in plant physiology is strongly recommended. Lecture, 3 hours; laboratory, 3 hours.

A study of the environmental and physiological parameters of plant distributions and niches. (S; offered even-numbered years.)

142. Community and Ecosystem Ecology

(4) STAFF

Prerequisite: consent of instructor. Botany 140 is recommended. Lecture, 3 hours; laboratory, 3 hours.

The structure and function of plant communities including energy flow and mineral cycling processes. (W; Not offered 1993-94)

146. Plant Geography: World Vegetation

(4) STAFF

Prerequisite: one of the following: Botany 103B, Botany 140, Geography 3, Environmental Studies 13. Lecture, 4 hours.

The composition and distribution of plant communities and vegetation types throughout the world in relation to past and present environmental factors, especially climates and soils. (F; offered even-numbered years.)

147. Plant Geography: Evolution, Distribution, and Relationships of Floras

(4) STAFF

Prerequisite: one of the following: Botany 103A, Botany 146, Botany 151; all three are recommended. Lecture, 4 hours.

The past and present distributions of taxonomic groups of vascular plants and of regional floras; the phenomena related to these distributions, including continental movement, climatic change, migration, endemism, vicariance, and evolution. (F; Not offered 1993-94)

150. Evolutionary Ecology of Plants

(4) MAZER

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours.

Variation and evolution in higher plants will be introduced with an emphasis on the detection of evolution by natural selection in wild species. Students will conduct an independent library research project. (S; Not offered 1993-94)

150L. Evolutionary Ecology of Plants Field Laboratory

(2) MAZER

Prerequisites: Biology 4A, 4B and 4C, or equivalent, and Botany 150 taken previously or concurrently; or consent of instructor.

This course will introduce students to the analysis of experiments designed to detect evolutionary processes under field conditions. Experimental design, data analysis, and computer aided instruction in graphical presentation of data and statistical programs will be covered. (S; Not offered 1993-94)

170. Phycology

(4) STAFF

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 2 hours; laboratory, 6 hours.

An introduction to the algae, with emphasis on comparative morphology, evolution, and classification. Attention is also given to environmental factors that influence marine and freshwater algal habitats. (F; Not offered 1993-94)

GRADUATE COURSES

241. Advanced Physiological Plant Ecology

(S) MAHALL

Prerequisites: Biology 4A-B-C or equivalent; Botany 140; and consent of instructor. A course in plant physiology is strongly recommended. Lecture, 3 hours; laboratory, 6 hours.

A study of the environmental and physiological parameters of plant distributions and niches with special reference to methods. (S; offered even-numbered years.)

242. Community and Ecosystem Ecology

(4) STAFF

Prerequisite: Botany 140 or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

The structure and function of plant communities including energy flow and mineral cycling processes. A major term paper will be required. (W; not offered 1993-94)

250. Advanced Evolutionary Ecology of Plants

(3) MAZER

Prerequisites: Biology 4A-B-C (previously Biology 1, 2, 3) or equivalent. Lecture, 3 hours.

Variation and evolution in higher plants will be studied with emphasis on how the mechanisms and processes of evolution by natural selection are detected in wild species. Graduate students will be expected to write a term paper on a special research topic. (S; Not offered 1993-94)

250L. Advanced Evolutionary Ecology of Plants Field Lab

(2) MAZER

Prerequisites: Biology 4A-B-C or equivalent, or consent of instructor.

This course will introduce students to the analysis of experiments designed to detect evolutionary processes under field conditions. Experimental design, data analysis, and computer aided instruction in graphical presentation of data and statistical programs will be covered. (S; Not offered 1993-94)

270. Phycology

(4) STAFF

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 2 hours; laboratory, 6 hours.

A graduate level, hands-on course that differs from the undergraduate course in that students will work in the lab with greenhouse cultured plants. Emphasis on comparative morphology, evolution, and classification of algae, including environmental factors that influence marine and freshwater algal habitats. (F; not offered 1993-94)

Zoology Courses

LOWER DIVISION

25. Human Anatomy

(4) TANOWITZ

Recommended: Biology 20 or other course in biology. Lecture, 3 hours; discussion, 1 hour.

Emphasis on fundamental structural and functional approaches of organ systems based on the human organism. Modern biomedical advances, techniques, and current topics are discussed in relation to their respective systems. (F,W)

25L. Laboratory in Human Anatomy

(4) TANOWITZ

Prerequisite: students must have previously taken, or be concurrently enrolled in Zoology 25. Laboratory, 8 hours; discussion, 1 hour.

Emphasis on fundamental structural and functional approaches or organ systems based on the human organism. Modern biomedical advances, techniques, and current topics are discussed in relation to their respective systems. (W,S)

UPPER DIVISION

100. Developmental Biology

(3) FOLTZ

Prerequisites: Biology 4A-B-C or equivalent; genetics recommended. Lecture, 3 hours.

Descriptive embryology of vertebrates and an introduction to developmental mechanisms. (W)

100L. Laboratory in Developmental Biology

(2) FOLTZ

Prerequisite: concurrent enrollment in Zoology 100. Laboratory, 3 hours; discussion, 1 hour.

Laboratory techniques in developmental biology. (W)

105. Functional Design of Fishes

(4) EBELING

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; laboratory, 3 hours.

An introduction to the study of fishes, emphasizing the interaction of morphology and function. (F; offered even-numbered years.)

108. Vertebrate Evolutionary Morphology

(S) SWEET

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; laboratory, 6 hours.

Lectures concern evolutionary and functional aspects of the development of structural complexity in vertebrates, emphasizing the role of size in determining mechanical and physiological optima and limits, and the constraints imposed by the evolutionary process. Labs involve dissections and demonstrations. (F; offered even-numbered years)

110. Advanced Parasitology

(3) KURIS

Prerequisite: Zoology 111 or consent of instructor. Lecture, 2 hours; laboratory 3 hours.

Consideration of theoretical aspects of parasite ecology, evolution, and physiology. General biology of a selected group of parasites chosen in consultation with students. Laboratory: group projects of experimental parasitological systems relevant to the students' general interests. Written report required. (S; Not offered 1993-94)

111. Parasitology

(S) KURIS

Prerequisites: Biology 4B-C or equivalent. Lecture, 3 hours; lab, 6 hours.

An ecological approach to parasitism. Parasites of humans and other animals are surveyed. Evolutionary, genetic, immunological, sociological, political, and economic aspects are discussed. Laboratory stresses anatomy and life cycles of living material. (W)

112A. Invertebrate Zoology

(S) KURIS, TRENCH, FOLTZ

Prerequisites:Biology 4B-C or equivalent or biology in the 20 series with consent of the instructor. Lecture, 3 hours; laboratory, 6 hours.

An introduction to the classification, structure, life histories, and habits of the major phyla of invertebrate animals (excluding annelids and arthropods), with emphasis on the marine fauna of the Santa Barbara area. (F)

112B. Invertebrate Zoology: Higher Invertebrates

(S) KURIS, FOLTZ

Prerequisites: Biology 4A-B-C or equivalent, or biology in the 20 series and consent of the instructor. Lecture, 3 hours; laboratory, 6 hours.

An introduction to the classification, structure, life histories, and habits of annelids and arthropods, with emphasis on the aquatic fauna of the Santa Barbara area. (S; offered even-numbered years)

113A. Evolution and Ecology of Terrestrial Vertebrates

(2) ROTHSTEIN

Prerequisites: Biology 4A-B-C or equivalent, and concurrent enrollment in Zoology 113AL. Lecture, 2 hours.

Evolutionary and ecological principles as demonstrated by amphibians, reptiles, birds, and mammals; competition and other species interactions; diversity and systematics with special emphasis on speciation theory. (F)

113AL. Laboratory and Fieldwork in Vertebrate Biology

(2) ROTHSTEIN

Prerequisite: concurrent enrollment in Zoology 113A. Laboratory, 3 hours; field, 3 hours.

Weekly field trips to numerous locations and laboratory work emphasizing classification, identification, and observation of local terrestrial vertebrates. Introduction to techniques such as trapping and banding to study vertebrates in the field. (F)

113CL. Laboratory and Individual Research in Vertebrate Biology

(2-4) ROTHSTEIN

Prerequisite: consent of instructor. Laboratory, 5 to 11 hours; discussion, 1 hour.

Field studies of the vertebrates of California, stressing species and communities, requiring several extensive field trips; individual field and/or research projects dealing with theoretical problems posed by the biology of vertebrates. (S; Not offered 1993-94)

125. Entomology

(S) STAFF

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; laboratory, 6 hours.

Selected topics in entomology, including classification, evolution, anatomy, life histories, and environmental adaptations. Laboratory includes studies of natural history and diversity of insects in the local area, with an emphasis on their distribution, abundance, identification, systematics, and environmental adaptations. (S; Not offered 1993-94)

130. Biology of Amphibians and Reptiles

(4) SWEET

Prerequisites: Zoology 113A-AL, or consent of instructor. Lecture, 2 hours; discussion, 1 hour; laboratory, 3 hours.

The evolution, systematics, and functional morphology of modern amphibians and reptiles. Lectures will treat worldwide diversity; laboratories will emphasize western North American faunas. A term paper will be required. (S; Not offered 1993-94)

138. Ethology and Behavioral Ecology

(S) ROTHSTEIN, WARNER

Prerequisite: Biology 4B or equivalent. Lecture, 3 hours; discussion, 1 hour; laboratory, 3 hours.

Animal behavior and social organization viewed from evolutionary and whole animal perspectives. Specific topics will stress environmental influences and natural selection and will include: classical ethology, development and learning, communication, foraging, aggression, territoriality, mating systems, parental care, altruism, and sociobiology. (W; offered odd-numbered years)

139. Evolutionary Ecology

(4) HOLBROOK, WARNER

Prerequisites: Biology 4A-B-C or equivalent; Biology 120. Lecture, 3 hours; discussion, 1 hour.

The evolution of life-history patterns (fecundity, mortality, sexual expression). Forms of natural selection. Coevolution and other evolutionary aspects of community structure and function. Topics in paleoecology. (W; offered even-numbered years.)

141. Approaches in Ecology

(4) HOLBROOK

Prerequisite: Biology 120. Lecture, 3 hours; discussion, 1 hour.

Study of approaches used by ecologists to address theoretical and empirical questions. Field/laboratory methods of testing ecological principles, including discussion of the role of experimental and non-experimental approaches and interpretation of data. (S; Not offered 1993-94)

142. Ecology

(4) STAFF

Prerequisites: Biology 4A-B-C or equivalent; Biology 120. Lecture, 3 hours; discussion, 1 hour.

Advanced studies of the biology of populations and ecological communities. (F; not offered 1993-94)

143. Ecological Physiology

(3) CHILDRESS

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours.

This course will consider the physiological responses and adaptations of animals to their environments. The underlying physiological and biochemical mechanisms will be emphasized. The approach will be comparative in nature and will emphasize aquatic animals. (F)

143L. Laboratory in Ecological Physiology

(2) CHILDRESS

Prerequisite: concurrent enrollment in Zoology 143. Laboratory, 6 hours.

Semi-independent study lab to accompany Zoology 143. The physiological responses and adaptations of animals to their environment will be studied. Aquatic animals will be emphasized. (F)

154. Vertebrates Physiology I: Regulation of Body Fluids

(4) W. N. HOLMES

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion 1 hour.

The composition and distribution of the fluids in the extracellular and intracellular compartments of the vertebrate body will be studied. The homeostatic mechanisms responsible for the turnover and regulation of these fluids will also be examined. (W)

155. Vertebrate Physiology II: General Endocrinology

(4) W. N. HOLMES

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

An introduction to the endocrine system in vertebrates and the nature of hormonal control mechanisms. (F)

156. Vertebrate Physiology III: Reproduction

(4) COLLINS

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; discussion, 1 hour.

Hormonal mechanisms regulating initiation/maintenance of reproductive function in vertebrates will be examined. Regulation of fertilization/pregnancy/parturition will be reviewed. Endocrine aspects will not duplicate topics covered in Zoology 155, and will provide background in physiology for Biology 119B. (S)

161. Systematics of Fishes

(4) EBELING

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 2 hours; laboratory, 6 hours.

The systematics of fishes, emphasizing their evolution, classification, and distribution. (F; offered odd-numbered years)

GRADUATE COURSES

211. Parasitology

(S) KURIS

Prerequisites: Biology 4A-B-C or equivalent. Lecture, 3 hours; laboratory, 6 hours.

An ecological approach to parasitism. Parasites of humans and other animals are surveyed. Evolutionary, genetic, immunological, sociological, political, and economic aspects are discussed. Laboratory stresses anatomy and life cycles of living material. (S)

212. Topics in Parasitology

(3) KURIS

Prerequisite: consent of instructor. Qualified undergraduates may take course with consent of instructor. Lecture, 2 hours; laboratory, 3 hours.

Consideration of theoretical aspects of parasite ecology, evolution, and physiology. General biology of a selected group of parasites chosen in consultation with students. Laboratory: individualized study of parasitological aspects relevant to student's general interests. An oral and written report are required. (W; Not offered 1993-94)

241. Approaches in Ecology

(4) HOLBROOK

Prerequisite: Biology 120. Lecture, 3 hours; discussion, 1 hour.

Study of approaches used by ecologists to address theoretical and empirical questions. Field/laboratory methods of testing ecological principles, including discussion of the role of experimental and non-experimental approaches and interpretation of data. (W; Not offered 1993-94)

255. Comparative Endocrinology

(4) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours; discussion, 1 hour.

A detailed study of the hormonal regulatory mechanisms in vertebrates. Students will be examined separately, and will also be required to submit a term paper on an approved topic. (F)

Black Studies

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Department Chair: Cedric J. Robinson

Faculty

Douglas H. Daniels, Ph.D., UC Berkeley, Professor *(American and Afro-American history)*

Gerald Horne, Ph.D., Columbia University; J.D., UC Berkeley, Professor *(U.S. and Afro-American history)*

Claudine Michel, Ph.D., UC Santa Barbara, Assistant Professor *(multicultural/comparative education, cross-cultural psychology)*

Oyeronke Oyewumi, Ph.D., UC Berkeley, Assistant Professor *(gender, culture, race and ethnic relations)*

Gerard G. Pigeon, Ph.D., UC Santa Barbara, Associate Professor *(French literature and linguistics)*

Cedric J. Robinson, Ph.D., Stanford University, Professor *(political theory, Black politics)*

Earl L. Stewart, D.M.A., The University of Texas, Assistant Professor *(Afro-American music)*

Richard B. Turner, Ph.D., Princeton University, Assistant Professor *(religion)*

Affiliated Faculty

Elliott Butler-Evans, Ph.D. (English)

Sethard Fisher, Ph.D. (Sociology)

Lester P. Monts, Ph.D. (Music)

Garth St. Omer, Ph.D. (English)

The Department of Black Studies seeks to increase the general awareness and understanding of the Black experience through an examination of its historical and contemporary manifestations in various societies. It utilizes a cross-cultural approach, incorporating the active participation of faculty, students, and the wider community. The department offers a major leading to the B.A. degree. The faculty is available to students who are pursuing graduate degrees in other departments on topics in the area of Black Studies.

The major in Black Studies is designed to provide (1) a broad, cross-cultural orientation focusing on the heritage and contemporary social situation of Black people; and (2) instruction for students who intend to do graduate work in the area of ethnic-American studies or allied areas in the social sciences, humanities, or arts. The major provides suitable undergraduate preparation for careers in teaching, community services, or governmental agencies. After completing specific prerequisites, students with a bachelor's degree in Black Studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Students majoring in Black Studies are assigned by the department chair to a member of the faculty for academic and career advising. Each quarter, prior to registration, the department publishes a description of the content of courses to be offered. A second publication, describing the undergraduate program and courses, is updated periodically. Both publications are available in the department office.

Undergraduate Program

Bachelor of Arts—Black Studies

Preparation for the major. Required: Two courses from Black Studies 1, 3, 7; Black Studies 2 or 160; Black Studies 6; Black Studies 90 or 193AA-ZZ; and three courses from the following, with no more than two from any one department: Anthropology 2, 4, 5; Asian American Studies 2, 3, 4, 6; Chicano Studies 1A-B-C, 10, 11; Environmental Studies 11; Geography 3, 5; History 4A-B-C, 11, 17A-B-C; Philosophy 1; Political Science 2, 3, 12; Sociology 1, 2, 3; Women's Studies 20, 30, 50.

Black Studies majors are encouraged to take at least three quarters of a foreign language of their choice.

Upper-division major. Thirty-six units of upper-division Black Studies courses are required. Four units must be taken from Black Studies 193AA-ZZ; 8 units may be taken in upper-division work in closely related departments or fields, chosen in consultation with the department adviser. If a student opts to take Black Studies 193 instead of 90, the student will then need 8 units of 193.

Black Studies Courses

LOWER DIVISION

1. Introduction to Afro-American Studies
(4) HORNE

Prerequisite: students who have received credit for Black Studies 1A may not take this course for credit.

Historical and current social conditions of Black people in the United States. Topics include slavery, emancipation, reconstruction, and urban Black migration, with particular consideration given to the Black church and the Black family as bearers and creators of Afro-American culture.

2. Group Exploration of Racism
(4) MICHEL

Discussions designed to explore, identify, and understand the social and emotional pathology of racist orientations as they appear in everyday life. Focus on personal experiences, with extensive student involvement and participation expected. Not restricted to majors. Limited enrollment.

3. Introduction to African Studies
(4) PIGEON

Prerequisite: students who have received credit for Black Studies 1C may not take this course for credit.

A survey of the subject matter, themes, and methods of African studies. While briefly surveying the prehistory and early states of Africa, the course will focus on the culture and society of the colonial and independence eras.

5. Blacks and Western Civilization
(4) DANIELS

An interdisciplinary analysis of the effects of Africa on Western Civilization, specifically the politics, economics, and cultures of Europe, the Caribbean, and North America.

6. The Civil Rights Movement
(4) HORNE

History of the modern civil rights movement, its organization and ideology from its origins in the post reconstruction era, to its triumphs with the end of legal racial segregation, and its recognition in the civil rights legislation in the 1960s.

7. Introduction to Caribbean Studies
(4) PIGEON

Prerequisite: Students who have received credit for Black Studies 1B may not take this course for credit.

A survey of the culture and society of the Caribbean. After surveying Amerindian communities and examining the impact of the Atlantic slave trade, focus will be on slavery, emancipation, African and Creole cultures, and the issues accompanying an independent nationhood status.

14. The History of Jazz
(4) DANIELS

Prerequisite: Not open for credit to students who have previously completed Black Studies 114.

A survey of the historical origins and development of jazz, beginning with the West African heritage and the Afro-American folk tradition, and examining the social and cultural context of this twentieth-century music.

15. The Psychology of Blacks
(4) MICHEL

An examination of the Black ethos. The connections between Africa, the Caribbean, and Afro-America are examined with respect to the psychological traits common to Black people.

20. Introduction to Afro-American Politics
(4) STAFF

Provides a politico-historical overview of Afro-American involvement in the politics of the United States from slavery to the present.

36. Afro-American Oral Traditions
(4) PIGEON

Prerequisite: Not open for credit to students who have completed Black Studies 128.

Oral traditions of Afro-American and Caribbean cultures as expressed in Black idioms and folklore with some attention to the African background.

38A. Introduction to Afro-American Literature (Part I)
(4) STAFF

Prerequisite: students who have received credit for Black Studies 38 may take this course for credit.

Afro-American literature from colonial times through the Harlem renaissance.

38B. Introduction to Afro-American Literature (Part II)
(4) STAFF

Prerequisite: students who have received credit for Black Studies 38 may take this course for credit.

Afro-American literature from the 1930s to the present.

50. Blacks in the Media
(4) STAFF

The development of Black stereotypes. Studying literature, comic books, comic strips, cartoons, music, theater, cinema, broadcasting, and television, students will analyze the mythical imageries which have created stereotypes.

60A. Religion in Black America (Part I)
(4) STAFF

Prerequisite: same course as Religious Studies 61A.

A historical examination, beginning with West African heritage, of Afro-American religious leaders and organizations in the United States during slavery and until the end of the nineteenth century.

60B. Religion in Black America (Part II)
(4) STAFF

Prerequisite: same course as Religious Studies 61B.

A historical survey of major Black religious figures, organizations, movements, philosophies, and issues. Emphasis on contemporary religious phenomena in the Black religious community of the United States during the twentieth century.

90. Sophomore Seminar
(4) STAFF

Prerequisites: sophomore standing and consent of instructor.

A reading seminar which focuses upon specific topics such as Black cultures, slavery, folklore, or film. (Limited to 12 students.)

91. Research and Methodology in Black Studies
(4) STAFF

Prerequisite: consent of instructor.

Using Black studies topics, introduces students to weaknesses and strengths of quantitative and qualitative methodologies. Emphasizing the impact surveys have on the formulation of public or private policy, course will help students to use computers as research tools.

UPPER DIVISION

100. Africa and United States Foreign Policy
(4) HORNE

Prerequisite: upper-division standing or consent of instructor.

Post-World War II Africa and United States foreign policy. Special attention will be devoted to southern Africa and parallels between social movements in that part of the world and the United States civil rights movement.

102. Black Radicals and the Radical Tradition
(4) STAFF

Prerequisite: Black Studies 6 or consent of instructor.

This course will examine the tradition of radical thought and the relevance of this thought to the needs and interests of the Black community.

103. The Politics of Black Liberation—The Sixties
(4) STAFF

Prerequisite: Black Studies 6 or consent of instructor.

The origins of various Black liberation organizations and their ideologies and strategies in the 1960s. Study of grass roots organizations and their struggles sheds light on the developments that occurred when this movement encountered the intransigence of entrenched American racism.

104. Black Marxism
(4) ROBINSON

Prerequisite: Black Studies 3 or 5.

A theoretical explication and critique of the diverse Marxian analyses developed in Africa and the African Diaspora from the early 20th century. The course will trace and analyze the divergences of Black Marxisms from Western Marxism.

120. Religious Systems in Africa
(4) STAFF

Prerequisite: a lower-division religious studies course or consent of instructor. Same course as Religious Studies 122.

A survey of the various religious traditions of the African Continent.

121. The Black Family in the United States
(4) OYEWUMI

Prerequisite: upper-division standing or consent of instructor.

A developmental analysis of the role and significance of family life in the Black experience. Particular attention will be paid to the various forces that have influenced the structural and behavioral aspects of family life among Black Americans.

122. The Education of Black Children
(4) MICHEL

Prerequisite: upper-division standing or consent of instructor.

The social and intellectual development of Black children and their unique psychological and social needs. Informal and formal learning experiences within families, schools are explored. The urban schools and classroom situations of the contemporary African-American communities are also examined.

127. Black Women Writers

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Analyses of the works of Afro-American women writers from slavery to modern times, the unique problems faced by them, the concerns upon which they focus, the milieu that produced them, their triple consciousness, and the critical reception accorded them.

130A. Negritude and African Literature

(4) PIGEON

Prerequisite: students who have received credit for Black Studies 30A may not take this course for credit.

History of French African literature with emphasis on its development in Africa and the West Indies; the concept of negritude from its birth to the present.

130B. French African Literature

(4) PIGEON

Prerequisite: students who have received credit for Black Studies 30B may not take this course for credit.

A study of the ideologies and tendencies which appeared simultaneously in Africa and the French West Indies after the independence of Africa. Writers studied include Mongo Beti, Camara Laye, Aime Cesaire, Ferdinand Oyono, and Ousmane Sembene.

137E. Sociology of the Black Experience

(4) OYEWUMI

Prerequisites: upper-division standing; and one prior course in sociology or black studies. Same course as Sociology 137E.

This course will give a sociological overview of the experiences of Blacks in the United States from slavery to the present. Sociological analysis of the changing historical significance of Black poverty, the Black family, and the Black worker in the U.S. will be presented.

139A. The Sociology of Black-White Relations

(4) FISHER

Prerequisites: Sociology 1 or equivalent; students taking 139B must have taken Sociology 139A; or consent of instructor. Same course as Sociology 139A.

Selected problems of racism will be the focus of both theoretical (A) and empirical (B) study. This course will be an integral part of re-assessment, re-evaluation, and change in patterns of racist super-subordination.

139B. The Sociology of Black-White Relations

(4) FISHER

Prerequisites: Sociology 1 or equivalent; students taking 139B must have taken 139A; or consent of instructor. Same course as Sociology 139B.

Selected problems of racism will be the focus of both theoretical (A) and empirical (B) study. This course will be an integral part of re-assessment, re-evaluation, and change in patterns of racist super-subordination.

140E. Islam in America

(4) STAFF

Prerequisites: any lower-division course in Religious Studies or consent of instructor. Same course as Religious Studies 140E.

Examines Islam in American setting, from introduction by African slaves and immigrants from Islamic countries, to transformation into the Black Muslim movement, to rise as one of the leading non-Christian religions in the United States during the 1970s and 80s.

142. Music in Afro-American Cultures: U.S.A.

(4) STEWART

Prerequisite: upper-division standing.

Introduction to the music of Afro-Americans in the U.S.A. from the antebellum era to the present, including folk, religious, popular, and classical music forms. The sociology of Black music in America will form the basis for lectures and discussions.

145. Jazz and Popular Culture

(4) DANIELS

Prerequisite: upper-division standing or consent of instructor. Students who received credit for Black Studies 114, Jazz and Popular Culture, may not take this course for credit. Students who received credit for Black Studies 114, History of Jazz, may take this course for credit.

An examination of the evolution of the music from the swing era to the present and of its impact on forms of popular expression—dance, styles of dress, slang, film, and literature in the United States and abroad.

160. Analyses of Racism and Social Policy in the United States

(4) STAFF

Prerequisite: Black Studies 1 or 2.

In-depth analysis of the history, ideological, and scientific origins of racism in the United States from the nineteenth century. The effects of institutional racism on social policy, desegregation, integration, and affirmative action programs will also be examined.

161. Third World Cinema

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing. Same course as Film Studies 161.

This course studies representative films from Africa, Asia, and Latin America from the 1950s to the present. Explores the socio-cultural and aesthetic dimensions of these cinemas (which have emerged as the "other" of Hollywood and European cinema).

169A-B. Afro-American History

(4-4) DANIELS, HORNE

Prerequisites: any lower-division course in history or Black Studies, or upper-division standing. Same course as History 169A-B.

A: History of Afro-Americans from Africa in ancient times to the U. S. in the mid-nineteenth century.

B: History of Afro-Americans from emancipation to the present.

170. Afro-Americans in the American Cinema

(4) ROBINSON

Prerequisite: upper-division standing or consent of instructor.

An examination of the representation of Afro-Americans in the Hollywood feature film, from 1915 to the present. The course explores the relationship between screen icons and the racial attitudes held by Black and White Americans.

171. Africa in Film

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

The purpose of this course is to provide an understanding of African cultures, traditions, and politics as depicted by African and non-African filmmakers. Students will explore stereotypical as well as positive and romantic images of Africa. Films: semi-documentaries, documentaries, fiction.

172. Contemporary Black Cinema

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

The course explores the new directions in Afro-American cinema with emphasis on the directors, the aesthetics and the social content of contemporary Black film. The problems of production, distribution and exhibition will be examined.

191AA-ZZ. Special Topics in Black Studies

(4) STAFF

Prerequisites: upper-division standing. May be taken up to four times providing the letter designations are different; except for majors, who may take it up to three times.

Designed to broaden opportunities for students by offering varying topics related to the Black experience but not a part of the formal curriculum. Examples might be The Afro-American Soldier; Afro-American Folklore. Afro-American Art or Drama.

193AA-ZZ. Seminars in Black Studies

(4) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated for credit to a maximum of 12 units provided topic or instructor are different (only 8 units may be applied toward the major).

Seminars will focus on a specific topic chosen by the professor and will involve in-depth reading of a number of works and the writing of a paper on a subject chosen in consultation with the instructor.

194. Group Research in Black Studies

(4) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated once for credit.

A limited number of students (5-8) shall focus on a selected topic, each researching one aspect of, for example, Black student life at UCSB.

196. Bibliographic Methods in Black Research

(4) STAFF

Prerequisite: upper-division standing.

Methods of obtaining information on the Black experience, utilizing written, multimedia, and other sources, with emphasis on Afro-American materials, but also covering Africa, the Caribbean, and other parts of the diaspora.

197. Field Research

(1-8) STAFF

Prerequisites: upper-division standing, 3.0 overall grade-point average, approval of project by faculty sponsor and department chair.

Directed field research on a topic in Black Studies.

198. Readings in Black Studies

(4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Black Studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Enrollment limited. Reading and discussion will be centered around a single topic or problem to be announced in advance by the instructor.

199. Independent Studies in Black Studies

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Black Studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Admission by special permission of the department.

199RA. Independent Research Assistance in Black Studies

(1-5) STAFF

Prerequisites: students must: 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in Black Studies; 4) have consent of instructor and department. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

205. Methodology of Black Culture

(4) STAFF

Prerequisite: B. A. degree.

This course is to acquaint the student with the concepts, theories, norms, world view, theses, laws, etc., which the mind has to follow to arrive at the validity of Black cultural expressions.

222. Black Child Development

(4) MICHEL

Prerequisite: graduate standing.

An exploration of theories and models focusing on differential development as influenced by socio-cultural and ethnic variability. The emphasis will be on the social-emotional and cognitive development of Black children.

501. Teaching Methodology in Black Studies

(1-4) STAFF

Prerequisite: appointment as teaching assistant in Black Studies.

For graduate students who serve as teaching assistants: analyses of texts and materials; discussion of teaching techniques; conducting discussion sections;

formulation of topics and questions for papers and examinations; and grading papers and examinations under supervision of instructor assigned to course.

596. Directed Reading and Research
(2-5) STAFF
Prerequisite: graduate standing. May be repeated for credit on approval of chair.

Individual tutorial. Plan of study must be approved by department chair.

598. Master's Thesis Research and Preparation
(2-8) STAFF
Prerequisites: consent of instructor.

To assist graduate students who are doing research or writing their dissertation in African area studies and/or Black Studies.

Chemistry

Department of Chemistry,
Division of Mathematical, Life, and Physical Sciences,
Chemistry Building 1005;
Telephone (805) 893-2931
Department Chair: Bernard Kirtman

Faculty

Curtis B. Anderson, Ph.D., UC Los Angeles, Associate Professor *(organic chemistry)*

Donald H. Aue, Ph.D., Cornell University, Associate Professor *(organic chemistry)*

Michael T. Bowers, Ph.D., University of Illinois, Professor *(physical chemistry)*

Paula Yurkanis Bruice, Ph.D., University of Virginia, Senior Lecturer with Security of Employment *(bio-organic chemistry)*

Thomas C. Bruice, Ph.D., University of Southern California, Professor *(bio-organic chemistry)*

Clifford A. Bunton, Ph.D., University College (London), Professor Emeritus

Alison Butler, Ph.D., UC San Diego, Associate Professor *(bio-inorganic chemistry)*

Anthony Cheetham, Ph.D., Wadham College, Oxford Professor *(inorganic chemistry/ materials)*

Marcello DiMare, Ph.D., Harvard University, Assistant Professor *(organic chemistry)*

Hellmut Eckert, Ph.D., University of Münster (West Germany), Associate Professor *(inorganic/analytical chemistry)*

Peter C. Ford, Ph.D., Yale University, Professor *(inorganic chemistry)*

J. Thomas C. Gerig, Ph.D., Brown University, Professor *(bio-organic chemistry)*

David O. Harris, Ph.D., UC Berkeley, Professor *(physical chemistry)*

Thomas M. Hooker, Jr., Ph.D., Duke University, Professor *(biophysical chemistry)*

William C. Kaska, Ph.D., University of Michigan, Professor *(inorganic chemistry)*

John H. Kennedy, Ph.D., Harvard University, Professor Emeritus

Bernard Kirtman, Ph.D., Harvard University, Professor *(theoretical physical chemistry)*

Bruce H. Lipshutz, Ph.D., Yale University, Professor *(organic chemistry)*

R. Daniel Little, Ph.D., University of Wisconsin, Professor *(organic chemistry)*

Richard M. Martin, Ph.D., University of Wisconsin, Professor *(physical chemistry)*

Horia I. Metiu, Ph.D., Massachusetts Institute of Technology, Professor *(theoretical physical chemistry)*

Glenn H. Miller, Ph.D., Brown University, Professor Emeritus

Roger C. Millikan, Ph.D., UC Berkeley, Professor Emeritus

Henry W. Offen, Ph.D., UC Los Angeles, Professor *(physical chemistry)*

William E. Palke, Ph.D., Harvard University, Professor *(theoretical physical chemistry)*

Stanley M. Parsons, Ph.D., California Institute of Technology, Professor *(biological chemistry)*

Ralph G. Pearson, Ph.D., Northwestern University, Professor Emeritus

Glyn O. Pritchard, Ph.D., Manchester University, Professor Emeritus

Norbert O. Reich, Ph.D., UC San Francisco, Assistant Professor *(biological chemistry)*

Bruce Rickborn, Ph.D., UC Los Angeles, Professor *(organic chemistry)*

Seung Koo Shin, Ph.D., California Institute of Technology, Assistant Professor *(physical chemistry)*

Galen Stucky, Ph.D., Iowa State University, Professor *(inorganic chemistry)*

Richard J. Watts, Ph.D., University of Colorado, Professor *(inorganic chemistry)*

Alec M. Wodtke, Ph.D., UC Berkeley, Assistant Professor *(physical chemistry)*

Fred Wudl, Ph.D., UC Los Angeles, Professor *(organic chemistry, materials science)*

Affiliated Faculty

H. Henry Weinberg, Ph.D. (Chemical Engineering)

The major in chemistry provides excellent undergraduate preparation for careers in chemical research, teaching, medicine, law, technical management, and environmental fields. The Department of Chemistry offers programs leading to either the B.A. or the B.S. degree. Both of these bachelor's degree programs may meet the standards recommended by the American Chemical Society for professional education in chemistry. The B.S. degree is recommended for students planning professional careers in chemistry; the B.A. degree may be more suitable for students with other career goals.

Entering students will be assigned an adviser who may be consulted on any matter pertaining to university work, including waivers and substitutions of major requirements. Students must submit their programs to the adviser for approval. After completing specific prerequisites, students with a bachelor's degree in chemistry are eligible to pursue a California teaching credential. Interested students should dis-cuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Prizes, Honors, Loan Fund

The Willard L. McRary Prize in Chemistry is given to a graduating senior whose work in chemistry reflects the promise of outstanding scientific achievement, such as that which characterized the career of Professor McRary. The B. R. Baker Memorial Fellowship in Chemistry is awarded to graduate students who have given strong indication, by their graduate or undergraduate record, that they will make continued and substantial contributions to the progress of organic, medicinal, or biological chemistry. The Robert H. DeWolfe Teaching Fellowship is awarded to a graduate student in organic chemistry who has demonstrated excellence in undergraduate instruction. The John H. Tokuyama Memorial Loan Fund provides short-term or emergency loans specifically to graduate chemistry students at UCSB.

Undergraduate Program

Bachelor of Arts—Chemistry

Preparation for the major. Chemistry 1A-B-C, 1AL-BL-CL (or 1A-AL-2B-BL-2C-CL), 6A-B; Math 3A-B-C. Physics 1, 2, 3, 4, 3L, 4L, or Physics 6A-B-C, 6AL-BL-CL are required. It is recommended but not required that Math 5A be completed before taking Chemistry 113A-B-C. A reading knowledge of a foreign language is strongly recommended (German is particularly useful), though not required, for students planning advanced study in science.

Upper-division major. Thirty-seven to 39 upper-division units, including Chemistry 130A-B-C, 113A-B-C, 114A or B, 150, 150L, 173A or B. One chemistry elective (at least 3 units and not 199) is required to complete the major. Chemistry 8A-B-C may be substituted for Chemistry 130A-B-C with the approval of the junior or senior adviser, but an additional 10 upper-division units in chemistry including at least one organic chemistry course (not 130A-B-C) must be taken to satisfy upper-division unit requirements of 37 units.

Students should consult an adviser in the Department of Chemistry regarding possible substitutions. Transfer students who receive subject credit for Chemistry 130 and/or 150 because they completed equivalent lower-division courses elsewhere must earn at least 36 upper-division units in chemistry.

The B.A. degree in chemistry will meet the standards recommended by the American Chemical Society (ACS) for professional education in chemistry provided the student completes three additional courses in chemistry, including two laboratory courses (Chemistry 6C may be used for partial fulfillment of this requirement). Students should consult the senior adviser in regard to ACS certified degrees.

Bachelor of Science—Chemistry

Preparation for the major. Chemistry 1A-B-C, 1AL-BL-CL (or 1A-AL-2B-BL-2C-CL), 6A-B-C; Math 3A-B-C, Math 5A-B; Physics 1, 2, 3, 4, 3L, 4L are required. A reading knowledge of a foreign language is strongly recommended (German is particularly useful), but not required, for students planning advanced study in science.

Upper-division major. Fifty-four upper-division units, including Chemistry 130A-B-C, 113A-B-C, 114A-B, 150, 150L, and 173A-B, are required. The remaining 12 major units will normally include two physical chemistry courses, one organic or biological chemistry course, and one upper-division laboratory course. Courses should be chosen after consultation with the junior or senior adviser. It is strongly recommended that Chemistry 173A be taken before Chemistry 173B. Transfer students who receive subject credit for Chemistry 130 and/or 150 must earn at least 44 upper-division units in chemistry. Completion of sufficient units of Chemistry 7B-C or Chemistry CS7 will be considered equivalent to Chemistry 136 and Chemistry 136L and can be used to fulfill the upper-division chemistry laboratory requirement for the B.S. degree.

Cooperative Program—Chemistry and Chemical Engineering

Chemistry students who are interested in an industrial career are advised to consider a five-year program leading to B.S. degrees in both chemical engineering and chemistry. Students in the cooperative program are required to register simultaneously in the College of Letters and Science and the College of Engineering. They are responsible for completing all degree requirements for each college.

Department of Chemistry requirements for the program include Chemistry 1A-B-C, 1AL-BL-CL, 6A-B-C, 130A-B-C, 150, 150L, 113B-C, 114A or B, 173A or B, and two additional upper-division courses in chemistry. Math 3A-B-C, 5A-B-C, Physics 1 (or Mechanical Engineering 10), and Physics 3, 4, 3L, 4L are also required.

Interested students may obtain more information about the program from the Department of Chemistry or the Department of Chemical and Nuclear Engineering. Final admission to the program is subject to the approval of the dean or provost of each college.

Senior Honors Program

The senior honors program is available to students with outstanding academic records. The program includes carrying out research (through Chemistry 199) in one of the departmental research groups, presenting a seminar describing this work, and preparing a written research report or thesis. Applications to the honors program should be made to the senior adviser, early in the fall quarter of the senior year.

Graduate Program

The M.S., M.A., or Ph.D. degrees in chemistry may be obtained in any one of the special fields of analytical, biological, inorganic, organic, physical, or theoretical chemistry. In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB." *Graduate Study in Chemistry*, a publication containing admission and degree requirements, is available upon request from the Department of Chemistry.

Master of Science or Master of Arts—Chemistry

The M.S. in chemistry may be attained under Plan 1 (thesis based on research). The M.A. in chemistry may be obtained under Plan 2 (examination). The student must present a literature-based seminar to the department.

Doctor of Philosophy—Chemistry

The Ph.D. degree in chemistry will be awarded upon the successful completion of the following requirements: (1) a core curriculum; (2) two preliminary evaluations; (3) a seminar presentation unrelated to the dissertation research field; (4) the Ph.D. Candidacy Oral Examination; and (5) submission and successful defense of a research dissertation. The main features and time schedule of these requirements are briefly summarized below; a complete document is available in the department.

A six-course curriculum is established with and approved by the Divisional Academic Adviser and normally completed during the first year. Several additional elective courses will be taken during the first and second year. The two preliminary evaluations include written examinations, propositions, and cumulative examinations, depending on the division. Both requirements and the seminar presentation must be completed before the Ph.D. Candidacy Oral Examination. The Ph.D. Candidacy Oral Examination, which focuses on the student's dissertation research field, is usually scheduled for the end of the sixth quarter.

The Ph.D. candidate will prepare and defend a dissertation detailing an original work of research in his or her field of specialization.

Interdepartmental Program of Graduate Studies in Biochemistry and Molecular Biology

For details see catalog entry under Biochemistry and Molecular Biology.

Chemistry Courses

LOWER DIVISION

1A-B-C. General Chemistry

(3-3-3) STAFF

Prerequisites: one year of high school algebra and exponents and logarithms. High school chemistry and physics are strongly recommended. Concurrent registration in Chemistry 1AL-1BL-1CL is required, or consent of instructor. Lecture, 3 hours.

Chemistry 1 develops a quantitative understanding of matter providing a basis for all fields of science and also for understanding industrial technology and environmental problems. This course is required for majors in chemistry and most other fields of science and engineering, but it can also provide a general education in science for the liberal arts student.

A: Stoichiometry, gas laws and kinetic theory, atomic and molecular structure, the periodic table, nature of solids, liquids, and solutions, phase equilibria.

B: Thermodynamics (1st and 2nd laws), reaction kinetics, thermochemistry, oxidation and reduction, electrochemistry, chemical equilibrium.

C: Structure and dynamics of the elements and their compounds. Aspects of technology and environmental problems.

1AL-BL-CL. General Chemistry Laboratory

(1-1-1) STAFF

Prerequisite: concurrent registration in Chemistry 1A-B-C or consent of instructor. Laboratory, 4 hours. A lab fee may be required.

Quantitative measurements demonstrating principles and developing laboratory technique. Inorganic qualitative analysis. Inorganic synthesis.

2A. General Chemistry (Honors)

(3) STAFF

Prerequisite: one year of high school chemistry or physics, one quarter of calculus (may be taken concurrently), and consent of instructor. Lecture, 3 hours.

Enrollment will be limited to 40 students. The sequence of topics will be similar to that in Chemistry 1A. Calculus will be used as needed, at the level of the concurrent Mathematics 3A course.

2AL. General Chemistry Laboratory (Honors)*

(1) STAFF

Prerequisite: concurrent registration in Chemistry 2A. Laboratory, 3 hours.

Quantitative measurements demonstrating principles and developing laboratory technique.

2B. General Chemistry (Honors)

(3) STAFF

Prerequisites: Chemistry 1A and consent of instructor. Lecture, 3 hours.

Thermodynamics, reaction kinetics, thermochemistry, oxidation and reduction, electrochemistry, chemical equilibrium. Laboratory required.

2BL. General Chemistry Laboratory (Honors)

(1) STAFF

Prerequisites: Chemistry 1A-AL. (3.0 grade-point average or consent of instructor.) Laboratory, 3 hours. A lab fee may be required.

Laboratory techniques. Thermodynamics, reaction kinetics, thermochemistry, oxidation and reduction, electrochemistry, chemical equilibrium.

2C. General Chemistry (Honors)

(3) STAFF

Prerequisites: Chemistry 1A-B, or Chemistry 1A, 2B. Consent of instructor. Lecture, 2 hours.

Structure and dynamics of the elements and their compounds. Aspects of technology and environmental problems. Laboratory required.

2CL. General Chemistry Laboratory (Honors)

(1) STAFF

Prerequisites: Chemistry 1B, 2BL. Laboratory, 3 hours. A lab fee may be required.

Laboratory techniques. Structure and dynamics of the elements and their compounds. Aspects of technology and environmental problems.

6A-B-C. Laboratory Methods of Organic Chemistry

(2-2-2) STAFF

Prerequisites: for 6A: Chemistry 130A or 8A (may be taken concurrently). Chemistry 6A: lecture, 1 hour; laboratory, 4 hours. Chemistry 6B-C: laboratory, 8 hours. A lab fee may be required.

Distillation, crystallization, extraction, determination of physical properties, organic synthesis, identification of organic compounds, instrumental methods in organic chemistry.

7B-C. Laboratory Methods of Organic Chemistry (Honors)

(2-2) STAFF

Prerequisites: Chemistry 6A and consent of instructor. Laboratory, 8 hours. A lab fee may be required.

Topics will be similar to those in Chemistry 6B-C, but with more flexible laboratory hours and more emphasis on instrumental analysis and spectroscopy for the characterization of organic compounds in conjunction with the Chemistry CS 7 course in the College of Creative Studies.

8A-B-C. Fundamentals of Organic Chemistry

(3-3-3) BRUICE, GERIG, PARSONS

Prerequisites: Chemistry 1A-B-C. Designed primarily for biological sciences majors. Lecture, 3 hours.

Structure and reactivity of organic compounds including nomenclature, isomerism, spectroscopy, catalysis, reaction mechanisms, and stereochemistry. Application of the principles of organic chemistry to biochemical systems—carbohydrates, proteins, enzymes, vitamins, and cofactors.

25. Introductory Chemistry

(3) STAFF

Not open to students who have completed Natural Science 1B. Lecture, 3 hours. This course is designed *to meet the non-science majors' General Education requirement in the physical sciences. The course may also serve as background preparation for Chemistry 1A.*

The course includes such basic topics as atomic theory, weight relations, nomenclature, chemical bonding, kinetic molecular theory, gas laws, solutions, and related areas of modern chemistry.

90FS. Freshman Seminar

(2) ANDERSON, KENNEDY, HOOKER

Seminar, 2 hours.

Informal discussion limited to 10 students in each section. Each participating faculty member will conduct one section. Subjects will include current technological and environmental problems, and recent advances in basic and applied chemistry.

91. Undergraduate Seminar

(1) STAFF

Prerequisites: Chemistry 1A-B or concurrent enrollment. May be repeated once for credit. Seminar, 1 hour.

Seminars for undergraduates presented by faculty and/or students.

99. Introduction to Research

(1-3) STAFF

Prerequisites: consent of instructor and undergraduate adviser. May be repeated to a maximum of 6 units. Tutorial, 3-9 hours.

Directed study, normally experimental, to be arranged with individual faculty members. Course offers exceptional students an opportunity to participate in a research group. The student will learn basic techniques and the operation of instruments used in research. Each faculty member has a unique number designation.

UPPER DIVISION

101. Problems in Environmental Chemistry

(3) STAFF

Prerequisites: Environmental Studies 12 and 115 or one of the following: Chemistry 1B, Chemistry 25, or Natural Science 1B. Open to chemistry majors for credit but cannot be used to satisfy required chemistry electives. Lecture, 3 hours.

The chemical aspects of energy sources and their impact on the environment; the chemistry of air, water, and soil pollution; sources and methods of control; chemical dynamics in the environment; chemical quality standards and their maintenance.

112. Biophysical Chemistry

(4) GERIG, HOOKER, MILLIKAN

Prerequisites: Chemistry 113A-B.

Physical chemistry of biomolecules: structure, thermodynamics, hydrodynamics, kinetics, and spectroscopy.

113A-B-C. Physical Chemistry

(4-4-4) BOWERS, HARRIS, MARTIN, MILLIKAN, PALKE

Prerequisites: Chemistry 1A-B-C; Mathematics 3A-B-C; and Physics 1, 2, 3, 4, 3L, 4L or 6A-B-C and 6AL-BL-CL; or by consent of instructor. Lecture, 3 hours; discussion, 1 hour.

A: Chemical thermodynamics: laws of thermodynamics, phase equilibria, chemical equilibria, equations of state.

B: Quantum theory and spectroscopy: introduction to quantum mechanics; symmetry, molecular structure, and spectroscopy.

C: Kinetic theory of gases, chemical kinetics, statistical mechanics, photochemistry.

113AG-BG-CG. Physical Chemistry

(4-4-4) BOWERS, HARRIS, MARTIN, MILLIKAN, PALKE

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 113A-B-C or the respective part thereof at this institution. Lecture, 3 hours; discussion, 1 hour.

114A-B. Physical Chemistry Laboratory*

(3-3) BOWERS, MARTIN

Prerequisites: Chemistry 150 and 150L or equivalent; Chemistry 113A concurrently with Chemistry 113B. Lecture, 1 hour; laboratory, 8 hours. A lab fee may be required.

Lecture: treatment of experimental data, error analysis, instrumental data acquisition techniques, special topics. Laboratory: experiments and reports involving physical properties of gases, thermochemistry, solutions, phase equilibria, chemical kinetics, surface phenomena, molecular electric and magnetic properties, molecular spectra and structure, properties of solids, computer data analysis.

115A-B-C. Fundamentals of Quantum Chemistry

(3-3-3) PALKE, MILLIKAN, KIRTMAN, WODTKE

Prerequisites: Chemistry 113A-B-C, Mathematics 5A or consent of instructor. Lecture, 3 hours.

A: Introduction to quantum mechanics-postulatory approach; particle in box, on ring, harmonic oscillator; linear operator theory, matrix algebra; hydrogen atom; perturbation theory, variation theory; applications.

B: Molecular orbital theory and valence bond theory; Huckel theory (secular eqn.) applications to conjugated systems. Electronic spectra, and term symbols; introduction to infrared, Raman, and microwave spectroscopy.

C: Introduction to NMR, EPR, group theory; applications.

115AG-BG-CG. Fundamentals of Quantum Chemistry

(3-3-3) MILLIKAN, PALKE, KIRTMAN

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 115A-B-C at this institution. Lecture, 3 hours.

117. Statistical Thermodynamics

(3) OFFEN, PALKE, METIU

Prerequisites: Chemistry 113A-B-C or consent of instructor. Lecture, 3 hours.

Fundamentals of statistical thermodynamics, partition functions for ideal gases and crystals, quantum statistics, calculations of thermodynamic properties.

117G. Statistical Thermodynamics

(3) OFFEN, PALKE, METIU

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 117 at this institution. Lecture, 3 hours.

118. Photochemistry and Radiation Chemistry

(3) MARTIN, MILLIKAN, OFFEN

Prerequisite: Chemistry 113B. Lecture, 3 hours.

Interaction of light and matter, reaction paths from electronically excited molecules, flash photolysis, high energy radiation.

118G. Photochemistry and Radiation Chemistry

(3) MARTIN, MILLIKAN, OFFEN

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 118 at this institution. Lecture, 3 hours.

120. Polymer Chemistry

(3) STAFF

Prerequisites: Chemistry 130A-B-C. Lecture, 3 hours.

Mechanism and kinetics of polymerization: vinyl, condensation, and diene polymers; ionic polymerizations; block and graft polymers; copolymerization; physical chemistry of high polymers; polymer degradations; radiation chemistry of polymer systems.

130A-B-C. Organic Chemistry

(4-4-4) STAFF

Prerequisites: Chemistry 1A-B-C or consent of instructor. Chemistry 6A-B-C is to be taken concurrently. If student's major does not require 6C, then 6A-B may be deferred to winter or spring quarters. Lecture, 3 hours.

Structure, reactivity, mechanisms, synthesis, nomenclature, and spectroscopic identification of the principal classes of organic compounds as well as organometallics, amino acids, proteins, and carbohydrates. This course is intended for chemistry majors and others requiring a strong basis in organic chemistry (see majors in biochemistry-molecular biology, chemical engineering, pharmacology, physiology, and cell biology).

130AG-BG-CG. Organic Chemistry

(4-4-4) STAFF

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 130A-B-C at this institution. Lecture, 3 hours.

131A-B-C. Advanced Organic Chemistry

(3-3-3) ANDERSON, RICKBORN, LITTLE, AUE, LIPSHUTZ, DIMARE

Prerequisites: Chemistry 130A-B-C or consent of instructor. Lecture, 3 hours.

A: Physical organic chemistry, mechanism, stereochemistry, structure, and reactivity

B and C: Mechanism and synthesis in organic chemistry.

131AG-BG-CG. Advanced Organic Chemistry

(3-3-3) ANDERSON, RICKBORN, LITTLE, AUE, LIPSHUTZ, DIMARE

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 131A-B-C in this institution. Lecture, 3 hours.

136. Qualitative Organic Analysis

(2) AUE, LITTLE, RICKBORN

Prerequisites: Chemistry 130A-B-C and Chemistry 6A-B-C, or consent of instructor. Lecture, 2 hours.

Identification of unknown organic compounds; separation of mixtures; derivatives, instrumental methods; microtechniques.

136L. Qualitative Organic Analysis Laboratory

(2) AUE, RICKBORN

Prerequisite: concurrent enrollment in Chemistry 136. Laboratory, 8 hours. A lab fee may be required.

137. Organometallics in Organic Synthesis

(3) KASKA

Prerequisites: Chemistry 130A-B-C. Lecture, 3 hours.

A study of the synthesis of organic compounds where the starting material or intermediate is a substance having a carbon-metal bond.

141. Bio-Organic Reactions

(3) BRUICE

Prerequisites: Chemistry 130A-B-C, Chemistry 113A-B-C, or consent of instructor. Biology 108 is recommended. Lecture, 3 hours.

A lecture course in bio-organic mechanisms. The types of chemical transformations of importance in biochemical reactions will be discussed from a physical organic point of view. Mechanisms of nucleophilic displacement reactions on carbonyl groups and pentacovalent phosphorous, hydration reactions, chemical reactions of cofactors, enzymic catalysis, and enzyme models are among the topics considered.

142A-B-C. Chemical Aspects of Biological Systems

(3-3-3) BRUICE, PARSONS

Prerequisite: Chemistry 130C or consent of instructor. Lecture, 3 hours.

A: Macromolecules of biological importance. A survey of the physical and chemical properties of proteins, nucleic acids, and carbohydrates. Methods of preparation, chemical synthesis, degradation, and characterization of bio-molecules.

B: Chemical aspects of intermediary metabolism. The chemistry and elementary dynamic properties of enzymes; study of enzyme active sites; characterization of metabolic pathways and methods of examining cellular regulation.

C: Macromolecular biosynthesis and specialized cellular processes. A survey of nucleic acid and protein biosynthesis, characterization of lipids and membranes; function of membranes in transport, energy transduction, and cellular control; mechanisms of muscle contraction and cell motility.

142AG-BG-CG. Chemical Aspects of Biological Systems

(3-3-3) BRUICE, PARSONS

Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 142A-B-C or the respective part *thereof at this institution. Lecture, 3 hours.*

150. Analytical Chemistry
(3) KENNEDY, ECKERT
Prerequisites: Chemistry 1A-B-C or consent of instructor. Lecture, 3 hours.

Principles of analytical chemistry including classical techniques, spectrophotometry, electroanalytical techniques, and separation processes. Library research report.

150L. Analytical Chemistry Laboratory*
(3) KENNEDY, ECKERT
Prerequisite: concurrent enrollment in Chemistry 150 or consent of instructor. Laboratory, 8 hours. A lab fee may be required.

Students will perform experiments in several areas of analytical chemistry including gravimetric, volumetric, electroanalytical, spectrophotometric, and separation techniques. Analyses of water, blood, consumer products, and industrial alloys are carried out.

151. Advanced Analytical Chemistry
(3) KENNEDY, ECKERT
Prerequisite: Chemistry 150. Lecture, 3 hours.

A detailed discussion of principles of analytical chemistry with emphasis on acid-base and redox equilibria, and on separations. (Not offered every year.)

153. Advanced Analytical Techniques
(3) STAFF
Prerequisite: Chemistry 150 or consent of instructor. Lecture, 2 hours; laboratory, 4 hours. A lab fee may be required.

Principles of analytical methodology, as in spectroscopy, electronanalysis, and chromatography. Applications to environmental problems, forensic and clinical analysis, and industry. Analysis of solids and surfaces.

173A. Advanced Inorganic Chemistry
(3) STAFF
Prerequisites: Chemistry 113A-B-C or consent of instructor. Lecture, 3 hours.

Inorganic and organometallic chemistry of the nontransition elements and their compounds: descriptive reaction chemistry, bonding theory, stereochemistry, and introductory spectroscopy.

173B. Advanced Inorganic Chemistry
(3) STAFF
Prerequisites: Chemistry 113A-B-C and 173A, or consent of instructor. Lecture, 3 hours.

Inorganic and organometallic chemistry of the transition metals and their complexes: introductory ligand field theory and spectroscopy, descriptive chemistry, and reaction mechanisms.

174. Advanced Inorganic Synthesis and Laboratory Techniques*
(3) KASKA
Prerequisite: Chemistry 173 (may be taken concurrently) or consent of instructor. Lecture, 1 hour; laboratory, 8 hours. A lab fee may be required.

Methods of inorganic synthesis such as the synthesis of transition metal complexes, organometallics, and bioinorganic compounds. Spectroscopic characterization of compounds.

175. Physical-Inorganic Chemistry
(3) WATTS, FORD
Prerequisites: Chemistry 173A-B or consent of instructor. Lecture, 3 hours.

Bonding theory, thermodynamics, and structure of inorganic compounds. Applications of physical techniques to the study of inorganic (and organometallic) reactions and their mechanisms.

175G. Physical-Inorganic Chemistry
(3) WATTS, FORD
Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 175 at this institution. Lecture, 3 hours.

176. Inorganic Chemistry of Solar Energy Conversion
(3) FORD, KENNEDY, WATTS
Prerequisites: Chemistry 113A-B. Lecture, 3 hours.

Survey of applications of basic principles of physical chemistry, photochemistry, and electrochemistry to solar energy conversion processes. Selected systems designed to convert solar energy to chemical fuel, electricity, and heat will be treated in detail during the survey.

176G. Inorganic Chemistry of Solar Energy Conversion
(3) FORD, KENNEDY, WATTS
Prerequisites: Chemistry 113A-B. Lecture, 3 hours.

Survey of applications of basic principles of physical chemistry, photochemistry, and electrochemistry to solar energy conversion processes. Selected systems designed to convert solar energy to chemical fuel, electricity, and heat will be treated in detail during the survey.

184. Chemical Literature
(2) STAFF
Prerequisites: 12 units of Chemistry. Lecture, 2 hours.

Lectures and exercises on the literature and other information resources of use in chemistry.

184G. Chemical Literature
(2) STAFF
Prerequisite: open only by consent of the chemistry graduate adviser to graduate students who have not taken Chemistry 184 at this institution. Lecture, 2 hours.

Lecture and exercises on the literature and other information resources of use in chemistry.

195AA-ZZ. Chemical Instrumentation
(3-5) STAFF
Prerequisites: consent of instructor and undergraduate adviser. This course may be used to satisfy the upper-division laboratory requirement. Discussion, 1 hour; laboratory, 6 to 12 hours.

With guidance from a faculty member the student will learn advanced laboratory techniques by independent experimental work and weekly consultations with the instructor. Each faculty member has a unique number designation.

196AA-ZZ. Special Courses
(1-4) STAFF
Tutorial, 3-12 hours.

To be taken with the consent of the instructor and the undergraduate adviser of the department as a means of meeting special curricular problems. Each faculty member has a unique number designation.

199AA-ZZ. Independent Studies in Chemistry
(1-5) STAFF
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in chemistry. Students are limited to 5 units per quarter and 30 units in all 198/199 courses combined. Consent of both instructor and undergraduate adviser required. Tutorial, 3-18 hours.

Directed study, normally experimental, to be arranged with individual faculty members. Each faculty member has a unique number designation.

GRADUATE COURSES

211. Chemical Kinetics
(3) STAFF
Prerequisite: consent of instructor. Lecture, 3 hours.

A course in the laws and theories governing rates of chemical reactions and reaction mechanisms. Empirical treatment of reaction rates, treatment of data, gas-phase reactions, reactions in solution, catalysis, complex reactions, chain reactions. Collision theory and potential energy surfaces.

212. Chemical Dynamics
(3) MARTIN
Prerequisite: consent of instructor. Lecture, 3 hours.

Dynamics of molecular collisions and elementary chemical reactions, including elastic and inelastic collisions, potential energy surfaces, reactive scattering, state specific reaction cross sections, reagent state preparation and product state analysis, molecular beam and laser techniques in chemical dynamics. (Normally offered in alternate years.)

213B. Nucleic Acid Structure
(3) REICH
Prerequisites: Biology 108A-B-C, Chemistry 8A-B-C, or consent of instructor. Same course as Biology 213B. Lecture, 3 hours.

Structure and dynamics of DNA and RNA: forces between bases, metal binding, polymorphism, bends and kinks, intercalation, protein-DNA interactions.

214A-B. Statistical Mechanics
(3-3) METIU
Prerequisite: consent of instructor. Course content changes and the course may be repeated with a different topic (18 units maximum). Lecture, 3 hours.

Selected topics in advanced statistical mechanics. Critical phenomena and renormalization group theory. Correlation functions and response functions with applications to light, electron, neutron, and atom scattering from solids to liquids. Time dependent statistical mechanics with applications to relaxation phenomena. Stochastic methods.

215A-B. Quantum Mechanics
(3-3) METIU, PALKE
Prerequisite: consent of instructor. Course content changes each year and may be repeated with a different topic (18 units maximum). Lecture, 3 hours.

Selected topics in advanced quantum mechanics. Scattering theory with applications to potential scattering, electron scattering, and chemical reactions. Quantum theory of light and its interaction with matter. Molecular spectroscopy. Electronic structure calculations.

219. Selected Topics in Physical Chemistry
(1-4) STAFF
Prerequisite: consent of instructor. Course may be repeated with a different topic (18 units maximum). Lecture, 1 to 4 hours.

Selected topics: orbital symmetry rules for chemical reactions (Pearson); classical theory of light, radiation, and spectroscopy (Metiu); nonlinear optics and nonlinear spectroscopy (Metiu).

220. Surface Chemical Physics
(3) STAFF
Prerequisite: consent of instructor. Lecture, 3 hours.

Interactions of molecules with surfaces with emphasis on energy transfer. Condensation/evaporation, dissociation, internal energy transfer. Surface bonding and surface catalysis. Includes discussion of important surface instrumentation methods.

225. Instrumental Methods in Physical Chemistry
(3) STAFF
Prerequisite: consent of instructor. Advanced undergraduates may enroll by petition to Letters and Science. Lecture, 3 hours.

Fundamentals of basic measurements and advanced research instrumentation are taught. Emphasis is on both practical and conceptual understanding of the methods, suitable for experimental design. Signal electronics, vacuum techniques, molecular beams, lasers, and optics.

230. Modern Instrumental Techniques in Organic Chemistry
(3) STAFF
Prerequisite: graduate standing or consent of instructor. Lecture, 3 hours.

Practical spectroscopy including infrared and ultraviolet, but with primary emphasis on nuclear magnetic resonance, electron spin resonance, and mass spectroscopy. (Not offered every year.)

231. Advanced Physical Organic Chemistry
(3) STAFF
Prerequisite: consent of instructor. Lecture, 3 hours.

Study of the structural and environmental factors which influence the course of chemical reactions of organic compounds.

233. Advanced Synthetic Chemistry
(3) AUE, RICKBORN, LIPSHUTZ
Prerequisite: consent of instructor. Lecture, 3 hours.

A comprehensive discussion of modern synthetic organic methods, including the applications of addition, condensation, substitution, and rearrangement reactions. (Not offered every year.)

236. Molecular Orbital Theory
(3) STAFF
Prerequisite: graduate standing or consent of instructor. Lecture, 3 hours.

Applications of molecular orbital theory to organic chemistry. (Not offered every year.)

238. Selected Topics in Natural Products

(3) LIPSHUTZ, LITTLE

Prerequisite: consent of instructor. Course may be repeated with a different topic (18 units maximum). Lecture, 3 hours.

Selected topics in natural products. The contents of this course will vary.

239. Selected Topics in Organic Chemistry

(1-4) STAFF

Prerequisite: consent of instructor. Course may be repeated with a different topic (18 units maximum). Lecture, 3 hours.

Selected topics in organic chemistry. The contents of this course will vary.

250. Seminar in Biological Chemistry

(2) STAFF

Prerequisite: consent of instructor. May be substituted for Chemistry 290 requirement. Lecture, 2 hours.

Presentation of seminar in the areas of biophysical, bio-organic, or biological chemistry.

252. Enzyme Dynamics

(3) STAFF

Prerequisites: Chemistry 142A-B-C or consent of instructor. Lecture, 3 hours.

Study of the dynamics of reactions involving biological macromolecules. A kinetic approach to enzyme mechanisms and enzyme-macromolecule interactions.

254A-B. Magnetic Resonance Techniques in Biological Systems

(3-3) GERIG

Prerequisite: consent of instructor. Lecture, 3 hours.

A discussion of the theory and practice of magnetic resonance methods currently used in studies of proteins, nucleic acids, and polysaccharides both individually and in complex structures such as membranes. NMR and EPR techniques will be included but the emphasis will be on high-resolution ^1H and ^{13}C spectroscopy. (Normally offered in alternate years.)

255A-B-C. Methods in the Characterization of Biological Macromolecules

(3-3-3) HOOKER, GERIG

Prerequisites: physical chemistry, biochemistry, calculus, or consent of instructor. Lecture, 2 hours; discussion, 1 hour.

A: Introduction to biophysical chemistry. Macromolecular structure and conformation, intermolecular interactions, and multiple equilibria.

B: Theory and practice of physical methods employed to study macromolecules. Spectroscopic techniques, including ORD, CD, UV, fluorescence and phosphorescence, NMR, and ESR.

C: Theory and practice of physical methods employed to study macromolecules. Hydrodynamic properties, including sedimentation, diffusion, viscosity, osmotic pressure.

256A. Physical Biochemistry

(S) STAFF

Prerequisites: one year of undergraduate courses in each of the following: biochemistry, organic chemistry, physical chemistry, or consent of instructor. Same course as Biochemistry-Molecular Biology 256A. Lecture, 4-5 hours.

Isolation and structural analysis of biomolecules. Hydrodynamics and spectroscopics.

256B. Enzyme Kinetics and Mechanisms

(S) STAFF

Prerequisites: one year of undergraduate courses in each of the following: biochemistry, organic chemistry, physical chemistry, or consent of instructor. Same course as Biochemistry-Molecular Biology 256B. Lecture, 4-5 hours.

Enzyme kinetic and chemical mechanisms. Theory, experimental design, and data analysis. Enzyme models and non-classical enzymes.

258. Mechanisms of Organic and Enzymatic Reactions

(3) BRUICE

Prerequisite: consent of instructor. Lecture, 3 hours.

Formal presentation of seminars on recent literature dealing with mechanisms of organic and enzymatic reactions accompanied by open discussion of the topics considered.

259. Selected Topics in Biological Chemistry

(1-4) STAFF

Prerequisite: consent of instructor. Course may be repeated with a different topic (18 units maximum). Same course as Biochemistry-Molecular Biology 259. Lecture, 1 to 4 hours.

Selected topics from bio-organic, biophysical, or biological chemistry. The contents of this course will vary.

260. Research Seminar in Biochemistry-Molecular Biology

(1) FACULTY OF BIOLOGICAL SCIENCES AND CHEMISTRY

Prerequisite: graduate status. Seminar, 1-2 hours.

Seminars presented by faculty of the chemistry department and the molecular biology-biochemistry section of biological sciences. Current research topics.

261A-B-C. Enzyme Mechanisms

(3-3-3) BRUICE, PARSONS

Prerequisites: Chemistry 142A-B-C or consent of instructor. Lecture, 3 hours.

Presentation of the chemistry, structure, and function of enzymes followed by discussion of pertinent organic model systems relating to the specific enzymes. (Normally offered in alternate years.)

270. Graduate Seminar in Inorganic/Analytical Chemistry

(2) STAFF

Prerequisite: graduate status. Seminar, 2 hours.

Seminars in Inorganic/Analytical Chemistry are presented by faculty, visiting scholars, plus postdoctoral and senior graduate students on current research topics.

271. Bioinorganic Chemistry

(3) STAFF

Prerequisite: Chemistry 173A-B, or equivalent, or consent of instructor. Lecture, 3 hours.

Selected topics in bioinorganic chemistry and metallobiochemistry with a major focus on recent developments. Topics will include discussions of metalloproteins and corresponding model compound investigations. Emphasis will be on reaction mechanisms and spectroscopic properties of metal sites.

272. Reaction Mechanisms in Organometallic and Inorganic Chemistry

(3) STAFF

Prerequisite: Chemistry 173A-B, or equivalent, or consent of instructor. Lecture, 3 hours.

Discussion of chemical reaction mechanisms. Emphasis will be on fundamental reactions of metal compounds such as substitution, addition, elimination, and redox reactions for homogenous catalysis mechanisms and other complex systems.

273. Structural Inorganic Chemistry

(3) STAFF

Prerequisite: Chemistry 173A-B and 175, or equivalent, or consent of instructor. Lecture, 3 hours.

The use of X-ray and neuron scattering to characterize solid state materials. Subjects include the crystal unit cell, space groups, structure determination and refinement. It is recommended that the student have an elementary introduction to vectors, matrices, and Fourier series.

274. Solid State Inorganic/Materials Chemistry

(3) STAFF

Prerequisite: Chemistry 173A-B, or equivalent, or consent of instructor. Lecture, 3 hours.

An introductory course describing the synthesis, physical characterization, structure, electronic properties, and uses of solid state materials. (Normally offered in alternate years.)

275. Physical—Inorganic Chemistry

(3) STAFF

Prerequisite: consent of the chemistry graduate adviser. Lecture, 3 hours.

Bonding theory, thermodynamics, and structure of inorganic compounds. Applications of physical techniques to the study of inorganic (and organometallic) reactions and their mechanisms.

276. Photochemical and Photophysical Properties of Inorganic and Organometallic Compounds and Materials

(3) STAFF

Prerequisites: Chemistry 173A-B and 175, or equivalent, or consent of instructor. Lecture, 3 hours.

The mechanisms of fundamental physical and chemical events which follow absorption of light by inorganic or organometallic chromophores will be discussed. Homogeneous and heterogeneous systems will be considered as well as the design and operation of photo-optical and photoelectrical devices.

278. Synthesis in Organometallic and Inorganic Chemistry

(3) STAFF

Prerequisite: Chemistry 173A-B, or equivalent, or consent of instructor. Lecture, 3 hours.

The methodologies of synthetic inorganic and organometallic chemistry will be discussed. Of particular emphasis will be techniques of preparing and handling air and moisture sensitive compounds and compound purification and crystallization. (Normally offered in alternate years.)

279. Selected Topics in Inorganic Chemistry

(1-4) STAFF

Prerequisite: consent of instructor. Course may be repeated with a different topic (18 units maximum). Lecture, 3 hours.

This course is designed to reflect recent developments in inorganic chemistry.

280. Selected Topics in Analytical Chemistry

(1-4) STAFF

Prerequisite: consent of instructor. Course may be repeated with a different topic (16 units maximum). Lecture, 3 hours.

Selected topics from analytical chemistry. The content of this course will vary. "Electrochemistry;" (Hubbard/Kennedy). Additional topic titles will be added as they become available.

284. Chemical Literature

(2) STAFF

Prerequisite: consent of the chemistry graduate adviser only. Lecture, 3 hours.

Lectures and exercises on the literature and other information resources of use in chemistry.

285. Synthetic Chemistry of Macromolecules

(3) WUDL

Prerequisite: consent of instructor. Same course as Materials 284. Lecture, 3 hours.

The course will cover methods for the preparation of polymers. Organic chemistry synthetic reactions will be reviewed with particular emphasis on functional groups that lead to polymers.

290. Seminar in Chemistry

(2) STAFF

Prerequisite: consent of instructor. May be repeated. Lecture, 1 hour.

Presentation of seminar required of all chemistry graduate students.

291AA-ZZ. Special Seminar in Chemistry

(2) STAFF

Prerequisite: consent of instructor. May be repeated. Lecture, 1 hour.

Specialized seminar topics. Each faculty member has a unique number designation.

293. Faculty Research Seminar

(2) STAFF

Prerequisite: consent of instructor. Seminar, 2 hours.

A series of seminars by department faculty describing their active research projects.

501A-B-C. Techniques of Teaching and Laboratory Class Supervision

(2-2-2) ANDERSON

Prerequisite: graduate standing. S/U grade. Discussion, 1 hour.

An initial two-three day workshop is followed by weekly discussion. Topics covered: laboratory organization, supervising experiments, safety, presentations, leading discussions, writing quizzes, advising, and grading. Aimed at new teaching assistants.

593. Preparation for Organic Cumulative Examinations
(2) Staff
Discussion, 2 hours.

Discussion of (a) the solutions to cumulative examinations; (b) how to prepare for cumulative examinations; (c) problems in reaction mechanisms and organic synthesis.

594AA-ZZ. Special Topics
(1-4) STAFF
Variable hours.

Special seminar on research subjects of current interest.

595AA-ZZ. Group Studies
(2) STAFF
Prerequisite: same course as biochemistry-molecular biology 595AA-ZZ. Lecture, 2 hours.

Critical review of research in selected fields. Regular meetings are held in which the student presents for discussion information from the recent chemical literature.

596. Directed Reading and Research
(2-12) STAFF
No more than half the units necessary for the master's degree may be taken in Chemistry 596. Same course as Biochemistry-Molecular Biology 596. Tutorial, 2-8 hours.

Individual tutorial. Instructor usually the student's major professor. A written proposal for each tutorial must be approved by the department chair. Each faculty member has a unique number designation.

597AA-ZZ. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations
(1-3) STAFF
No unit credit allowed toward advanced degree(s). S/U grade. Variable hours.

Instructor should be the student's major professor or chair of the doctoral committee.

598AA-ZZ. Master's Thesis Research and Preparation
(1-12) STAFF
No unit credit allowed toward advanced degree. S/U grade. Variable hours.

Only for research underlying the thesis, writing the thesis. Instructor should be the chair of the student's thesis committee.

599AA-ZZ. Ph.D. Dissertation Research and Preparation
(1-12) STAFF
S/U Grade. Variable hours.

Only for research underlying the dissertation, writing the dissertation. Instructor should be the chair of the student's doctoral committee.

Chicano Studies

Department of Chicano Studies,
Division of Social Sciences,
Phelps Hall 1315;
Telephone (805) 893-3012
Department Chair:
Yolanda Broyles-González

Faculty

Yolanda Broyles-González, Ph.D., Stanford University, Professor *(dramatic literature and performance, oral tradition)*

Antonia Castañeda, Ph.D., Stanford University, Assistant Professor *(history)*

Ramón Favela, Ph.D., University of Texas at Austin, Associate Professor *(art history)*

Mario T. García, Ph.D., UC San Diego, Professor *(Chicano history)*

Francisco A. Lomelí, Ph.D., University of New Mexico, Professor *(literature)*

Emma Pérez, Ph.D., UC Los Angeles, Assistant-Professor *(history, Chicana feminisms)*

UCSB enjoys the distinction of having the only Department of Chicano Studies in the nine-campus University of California system. Chicano Studies is the interdisciplinary study of people of Mexican descent in the United States, centering on the intersections of power relations, race, gender, class, and culture. The program fosters a historical understanding of the political and cultural roots of the heterogeneous Chicano experience.

The undergraduate Chicano Studies major enhances the multicultural and gender sensitivity of students at UCSB. The major can be used as preparation for a career in such fields as teaching and education, counseling and social services, health and human services, law, and business. The major also prepares students for graduate study. By virtue of its interdisciplinary nature, the Chicano Studies major provides a unique alternative to traditional forms of intellectual inquiry. The major seeks to sharpen students' understanding of the construction and institutionalization of knowledge across disciplines.

Chicano Studies faculty and course offerings reveal a diversity of perspectives and areas of expertise. Although the department's faculty is trained in various disciplines (arts, humanities, and social sciences), the department affirms a new dynamic relationship among disciplines, as reflected in cultural, historical, and gender studies. The department affirms the importance of alternative approaches to learning and research and supports emerging and innovative methods of inquiry.

Undergraduate majors, incoming students, and prospective majors are invited to consult the department undergraduate academic adviser about all aspects of planning a program in Chicano Studies. Detailed descriptions of course offerings are available in the department office prior to the registration period, along with several guides and information sheets for majors and prospective majors.

After completing specific prerequisites, students with a bachelor's degree in Chicano Studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Bachelor of Arts—Chicano Studies

Preparation for the major. Chicano Studies 1A-B-C, Chicano Studies 12, Spanish 6 (or equivalent by examination).

Upper-division major. Forty upper-division units emphasizing four sub-areas, selected from the following. Up to 8 units may be taken outside the department:

A. Gender in Society—Two courses (8 units). Chicano Studies 155R, 155W.
B. Cultural Studies—Three courses (12 units). Chicano Studies 137, 139, 140, 141, 143, 145, 146, 147, 180, 181, 186A, 186B, 186P, 187, 188A, 188B, 188C, 190, 195.
C. Institutions/Chicano Communities/Power Relations—Three courses (12 units). Chicano Studies 115, 120, 130A, 130B, 131, 144, 154F, 164, 168A, 168B, 168E, 168F, 170A, 170B, 171, 172, 174, 175, 178, 189, 194, 197.
D. Critical Methodologies/Research—One course (4 units). Chicano Studies 102A, 102B, 110, 191D, 192, 195, 196.
E. Proseminar—One course (4 units). Chicano Studies 193. The proseminar, offered once a year, must be taken by all Chicano studies majors in their junior or senior year.

Note: special topics courses (up to 8 units) may be applied toward appropriate areas in substitute of major requirements. Students must obtain prior approval from the undergraduate adviser and must then submit a petition for graduation matters (request for substitution) to the College of Letters and Science.

Chicano Studies Courses

LOWER DIVISION

1A-B-C. Introduction to Chicano Studies
(4-4-4) STAFF

An introduction to the historical and contemporary development of the Chicano community, interdisciplinary in nature, and focusing upon such components as the educational, sociological, and political. The course will critically analyze the societal context in which La Raza has sought to maintain and develop its culture.

10. Introduction to Chicano History
(4) GARCIA
Prerequisite: lower-division standing. Same course as History 10. Students who have received credit for Chicano Studies 9 may not take this course for credit.

The historical heritage of the Chicano from Indian and Spanish origins to the contemporary period. Particular stress will be placed on the interpretation and analysis between key periods in world and U.S. history to the experience of Chicanos.

11. Introduction to Race and Ethnicity in American History
(4) GARCIA
Prerequisite: lower-division standing. Same course as History 11.

An introduction to the issues of race and ethnicity as they have affected the course of United States history from the colonial era to the present. Race and ethnicity will be dealt with as ideological issues as well as the history of particular race and ethnic groups in a pluralistic America.

12. Introduction to Chicano Spanish
(4) LOMELÍ
Prerequisites: consent of instructor and some basic knowledge of Spanish.

The course will introduce students to the Spanish language and help them to acquire oral and written skills, distinguish between standard speech of popular variants, and learn the Chicano Spanish lexicon.

99. Independent Studies
(1-4) STAFF

Independent study under the guidance of a faculty member in the department. Course offers students the opportunity to undertake independent study or work in a group.

UPPER DIVISION

102A-B. Quantitative Research and Issues in Chicano Studies
(4-4) STAFF

This two-quarter course sequence examines quantitative research problems in Chicano Studies. The emphasis is on the effective use of social survey data in formulating public and private policy. Students also receive an introduction to the computer as a research tool.

110. Research Methods in Chicano Studies
(4) STAFF

Prerequisites: Chicano Studies 1A-B-C.

Using Chicano studies topics, the course will introduce students to: (1) the epistemology of scientific inquiry (its history and contemporary movements); (2) the strengths and weaknesses of quantitative and qualitative methodologies; and (3) the mechanisms of research design (transforming an idea into a research plan).

115. Psychological Issues and the Chicano Child
(4) STAFF

To give the student an understanding of the fundamentals of psychology; to introduce the fundamentals of child psychology; and to analyze and discuss pertinent psychological principles and research related to the Chicano child.

120. Bilingualism and the Chicano
(4) STAFF

Prerequisite: consent of instructor.

An introduction to the study of bilingualism and the Chicano. The course will focus on the sociolinguistic and educational implications of bilingualism.

121. Writing Experience for Bilinguals
(4) STAFF

Prerequisite: consent of instructor.

A comparative analysis between Chicano Spanish, standard Spanish, and vocabulary building.

130A. Education of Chicanos: A Historical Perspective
(4) STAFF

Prerequisite: Chicano Studies 1A or 1B or upper-division standing.

This lecture course is aimed at providing an overview of the education provided for Chicanos from 1848 to the present. It provides an understanding of the origins, development, and status of public education for Chicano children in the Southwest.

130B. The Chicano Quest for Educational Equality
(4) STAFF

Prerequisite: Chicano Studies 1A or 1B or 130A or upper-division standing.

This lecture course traces the legal, administrative, and political efforts made by Chicanos to secure more and better education for their children. It also assesses its impact and influence on the public schools.

131. An Introduction to Issues in Chicano Bilingual Education
(4) STAFF

This is an introduction to bilingual education and its effect on Chicanos. Specific issues include the evolution and development of policy at the federal and state levels, theory and practice of bilingual education pertaining to Chicanos, the status and future of this program.

137. Chicano/Mexican Oral Traditions
(4) BROYLES-GONZÁLEZ

Prerequisites: upper-division standing and knowledge of Spanish and English.

The course will introduce students to the ancient roots of Chicano oral traditions. Contemporary forms of Chicano oral poetry, oral narrative, and drama will be examined, in addition to more ephemeral forms such as cabula, choteo, joke-telling, or dichos.

138. Barrio Popular Culture
(4) BROYLES-GONZÁLEZ

Prerequisite: upper-division standing.

The course will explore various manifestations of popular and mass culture in Chicano urban and semirural communities throughout the southwest. Both secular and religious cultural phenomena will be analyzed (lowriders, saints, music, etc.). Relationships to mainstream culture will be examined.

139. Native American Heritage and Chicano Cultural Renaissance
(4) BROYLES-GONZÁLEZ

Prerequisite: upper-division standing or Chicano Studies 1A, 1B, or 1C.

The course will explore the intense recourse to the Native American heritage during the Chicano cultural renaissance of the 1960s and 1970s. The rediscovery of the native ancestral cultures will be analyzed in poetry, prose, drama, the graphic arts.

140. The Mexican Cultural Heritage of the Chicano
(4) STAFF

Prerequisite: consent of instructor.

A panoramic view of present-day Chicano traditions analyzed from a Mexican cultural heritage perspective in order to comprehend and ap-preciate the uniqueness and difference of pres-ent-day Chicano culture, its achievements, and contribution to the overall American culture.

141. Roots of Chicano Culture in Interdisciplinary Perspective
(4) STAFF

Prerequisites: upper-division standing; two or more upper-division courses in sociology, religious studies, or anthropology.

This course will give students a general understanding of the origins, development, and contemporary variation in Chicano culture from an interdisciplinary approach.

143. Chicano/Mexican Film Studies
(4) LOMELÍ

Study of Chicano and Mexican cinema to view film as an art form and projection of the filmmaker. Techniques, messages, and ideology stressed as instruments which propose film truth within the context of Chicano and Mexican social experience.

144. The Chicano Community
(4) STAFF

Prerequisite: upper-division standing, or Chicano Studies 1A, 1B, or 1C, or a prior course in sociology. This course is the same as Sociology 144.

Origins of the Chicano in rural Mexico; context of contact; patterns of settlement in the United States; the Chicano community, social structure, and social change; acculturation and generational patterns; community leadership and change.

145. Chicano Art: Symbol and Meaning
(4) FAVELA

Prerequisite: upper-division standing. Same course as Art History 145.

This iconography course traces the sources and historical development of symbols and forms that originated in the art of New Spain and Mexico and became crucial for the development of a contemporary Chicano art. Emphasis is given to artistic conceptions of America and Axtlan by Mexican, Mexican American, and Chicano artists.

146. Contemporary Chicano Art
(4) FAVELA

Prerequisite: upper-division standing. Same course as Art History 146.

The Chicano art movement is examined and appraised within the context of contemporary American art and the contemporary art of Mexico. This course provides a survey of major Chicano and Chicana artists and developments in Chicano painting, sculpture, graphic, and conceptual art from the late 1960s to the present.

147. Chicanos and the Film Media: A Comparative History
(4) STAFF

This course examines the various ways Chicanos have been portrayed in Hollywood films. Their characterizations are contrasted with the portrayals of women, Blacks, Jews, gays, and lesbians. The content is chronological and thematic in its examination of recurrent minority images.

148. Chicana Artists, Chicana Art, and Liberation: The Politics of Gender, Race, Class Sexuality, and Self-Representation.
(4) CASTAÑEDA

Organized around Chicana artists and art speaker series. Examines the development of Chicana art within the historical and socio-political context of the Chicano Movement, the Women's Movement, and Chicanas' struggle for liberation. Emphasis on analysis and interpretation of historical and socio-political context in which Chicana artists live.

154F. The Chicano Family
(4) STAFF

Prerequisites: upper-division standing or Chicano Studies 1A-B-C or consent of instructor or prior course in sociology. Same course as Sociology 154F.

This course provides an overview of historical and contemporary research on Chicano families in the United States. Changing viewpoints on the character of Chicano families and their implications with respect to policy issues are examined.

155R. Chicana Research Issues
(4) PÉREZ

Prerequisites: upper-division standing or Chicano Studies 1A-B-C or consent of instructor or prior course in sociology. Same course as Sociology 155R.

This course is designed to enable students to develop and implement a research project that explores in depth one or more facets of the Chicana experience. Students will select and gather information in one area of interest such as: family, health, education, or employment.

164. Chicanos and the Administration of Justice
(4) STAFF

A survey of police-barrio community relations including the role of police, police department theories and tactics, and the unique police problems of the Chicano community. In addition, the course will examine the organization of courts and the procedural issues and suggested reforms involved in the adversary system, from arrest to penal institutions.

167. Chicana Feminism: History, Theory, and Practice
(4) CASTAÑEDA

Examines historical roots of contemporary Chicana feminism in indigenous and colonial Mexico, and working class history of Chicanas in the U.S. Examines knowledge systems and making of theory within context of daily practices, struggles in a racist, sexist, classist, homophobic society and culture.

168A-B. History of the Chicano
(4-4) GARCÍA

Prerequisite: any quarter of History 17A-B-C or any quarter of Chicano Studies 1A-B-C or upper-division standing. Same course as History 168A-B.

The history of the Chicanos, 1821 to the present; traces the sociocultural lifeline of the Mexicans who have lived north of Mexico.

168E. History of the Chicano Movement
(4) GARCÍA

Prerequisite: Any quarter of Chicano Studies 1A-B-C, or History 10 or Chicano Studies 10 or History 168B or Chicano Studies 168B or upper-division standing. Same course as History 168E.

An examination of the Chicano movement in the United States from the mid-1960s to the mid-1970s. Topics will include the student movement, the farmworker movement, the Plan de Aztlan, the Raza Unida Party, Chicana feminists, the anti-war movement, and Chicano studies.

168F. Racism in American History
(4) GARCÍA

Prerequisite: any quarter of History 17A-B-C or any lower-division course in Asian American studies, Black studies, Chicano studies or upper-division standing. Same course as History 168F.

This course will examine racism as a major ideological force in defining American society from the colonial era to the 1980s. Major focus will be in the changing nature of racism as ideology as well as the relationship of racism to specific minority groups such as Afro-American, Native American, Chicanos, and Asian-American.

168G-H. United States-Latin American Relations
(4-4) GARCÍA

Prerequisite: any quarter of History 17A-B-C or any quarter of Chicano Studies 1A-B-C or 101.

Covers the history of United States-Latin American relations from the colonial period to the present. Topics to be covered include the Monroe Doctrine, the

United States-Mexican War, Manifest Destiny, the Spanish-American War, Dollar Diplomacy, the Good Neighbor Policy, the Alliance for Progress, and the United States role in Central America.

168P. Proseminar in Chicano History
(4) GARCÍA

Prerequisite: History 168A or 168B, or Chicano Studies 168A or 168B, and consent of instructor. Same course as History 168P.

Studies in selected aspects of Chicano history with an emphasis on social and economic history.

169. Comparative Local History
(4) GARCÍA

This course analyzes local and regional history of Chicanos. Theories and methodologies of social, urban, and oral history will be examined. Public history programs for Chicano communities will be discussed. Students will develop a research prospectus for their research projects.

170A. Chicano Community Organizations
(4) STAFF

The day-to-day operations and success of contemporary Chicano community organizations is socio-historically analyzed. Emphasis is placed on whether particular organizations meet the actual or perceived needs of the Chicano community or of special interest groups within the community.

170B. Chicano Community Organizations
(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

The theory of organizing within the Chicano community will be analyzed through field observations of currently operating Chicano community organizations.

171. The Chicano Urban Experience
(4) STAFF

Prerequisite: upper-division standing.

This course traces the transition of Chicanos from a rural to urban population and examines trends in family size, language usage, segregation, and social inequality among Chicanos residing in cities. Issues of urban decay and community conflict are also examined.

172. Legal Issues in the Chicano Community
(4) STAFF

Prerequisite: consent of instructor.

Survey of recent state and federal laws and court decisions affecting the Chicano community. Special consideration will be given to landmark cases and decisions. Analysis will be made of opposing views on each case in a historical context.

174. Chicano Politics
(4) STAFF

Prerequisite: upper-division standing. Same course as Political Science 174.

Political life in the barrio, political behavior of the Chicano community, and representation of Chicanos by elected officials and interest groups.

175. Comparative Ethnic Movements
(4) STAFF

The purpose of this course is to examine the structural forces which strengthen ethnic identification and promote ethnic politics within the United States and other nations. Although the Chicano movement will be the central focus, various ethnic movements will be examined.

178. Theories of Social Changes and Chicano Society
(4) STAFF

This course will examine the dynamics of social change and its impact on the Chicano community. Students will acquire a general understanding of basic theories and an introduction to the social structure and processes of change (urbanization, social mobility, etc.).

180. Survey of Chicano Literature
(4) LOMELÍ

Prerequisite: same course as Spanish 135.

This course encompasses a general overview of all genres (poetry, novel, theatre, short story, and essay) of Chicano literature. A people's socio-Historical experiences are examined to understand ethnicity, creativity, and world view.

181. The Chicano Novel
(4) LOMELÍ

Prerequisite: same course as Spanish 179.

Reading, analysis, and critique of the contemporary Chicano novel as it pertains to the Chicano experience.

186A-B. Music/Dance of the Chicanos
(4-4) STAFF

A historical perspective of Mexican and Chicano music and dance with emphasis on the indigenous cultures and other contributing cultural elements which combine to form traditional and contemporary Chicano music and dance.

186P. Mexican/Chicano Dance Performance
(2) STAFF

May be repeated for credit to a maximum of 8 units.

The study and performance of native Mexican and Chicano dance forms from various regions: Veracruz, Jalisco, Norteño, etc. Each quarter will focus on a different set of dances: traditional and contemporary, ritual and secular.

187. Introduction to Chicano Theater and Performance
(4) BROYLES-GONZÁLEZ

Prerequisite: upper-division standing.

A survey of the major Chicano theater and performance forms ranging from the traditional to the avant-garde contemporary. The diverse forms of performance will be studied as art forms and with regard to their respective social functions within Chicano communities.

188A. Chicano Theater: Origins to 1970
(4) BROYLES-GONZÁLEZ

Prerequisites: upper-division standing or Chicano Studies 1A, 1B, or 1C, or any lower-division drama course such as Dramatic Art 60 or 60S.

Survey of the origins and development of borderlands theater, from native ritual and Indian-Hispano antecedents to today's Chicano forms. The genesis of Chicano theater will also be studied in relationship to Chicano culture and history.

188B. Contemporary Chicano Theatre
(4) BROYLES-GONZÁLEZ

Prerequisite: upper-division standing or Chicano Studies 1A, 1B, or 1C, Chicano Studies 188A, or any lower-division drama course such as Dramatic Art 60 or 60S.

An analysis of contemporary Chicano forms of theatrical expression, ranging from barrio performances to mainstream commercial productions. The creation and presentation of Chicano dramatic forms will be analyzed in relationship to economic and historical realities affecting them.

188C. Chicano Theater Workshop
(4) STAFF

Prerequisites: Chicano Studies 188A or 188B or consent of instructor, knowledge of Spanish and English.

Reading and analysis of contemporary bilingual Chicano plays, in conjunction with acting and technical training. A dramatic piece will be rehearsed and performed.

189. Immigration and the U.S. Border
(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

An analysis of the socioeconomic and political factors which have determined and continue to form the basis for the development of United States immigration policies and practices toward Mexico and the U.S-Mexican border.

190. Introduction to Chicano Poetry and Short Story
(4) LOMELÍ

Reading and appreciation of Chicano poetry and poets. Analysis and critique of the Chicano short story with discussions on the realities and values presented on the Chicano experience and universe by the author.

191AA-ZZ. Special Topics in Chicano Studies
(4) STAFF

Course may be taken up to three times (12 units) providing the letter designations are different.

Designed to allow courses of varying topics in areas of expertise of visiting professors to broaden opportunities for students. Examples might be: immigration, Native American, Mexican, or Latin American influences on the Chicano, legal issues, the migrants.

192. Field Research
(4-8) STAFF

Prerequisites: lower-level ethnic studies; sociology and/or anthropology coursework; open only to juniors and seniors; consent of instructor. Eight units maximum may be applied to major.

Internship in contemporary urban problems and decision-making processes as they affect the Chicano. Internship based on directed research through observation, participation, and relevant readings. Student individually assigned, instructed, and supervised in fieldwork involving practical experience in decision-making unit of local governmental social service agencies, or of community liaison agencies.

193. Undergraduate Seminar
(4) STAFF

Prerequisites: two courses in Chicano Studies, consent of instructor prior to enrollment and upper-division standing. To be offered intermittently.

Special topics in Chicano Studies.

194. Seminar: The Chicano Worker
(4) STAFF

Prerequisite: consent of instructor.

A comparative analysis of the economic status of Chicanos. Special attention is given to the employment situation of Chicanas, Chicano youths, and Mexican immigrants. Key topics are job and industry concentration, income, unemployment, and underemployment.

195. Seminar: Problems in the History of Chicano Art
(4) FAVELA

Prerequisites: either Chicano Studies 145 or 146; upper-division standing and consent of instructor.

A definition of Chicano art will form the focus of this seminar. Students will conduct primary research and analyze pluralistic facets of Chicano art, artists, and art criticism within the context of mainstream American art and culture.

196. Practicum: Analysis of Chicano Survey Data
(4) STAFF

Prerequisite: upper-division standing.

The course allows students an opportunity to conduct their own research project. With instructor supervision, students will formulate and execute (through use of the computer) an analysis of data from an existing Chicano survey.

197. Special Topics Seminar: Education of the Chicano Child
(4) STAFF

Survey of the relationship between the schools and the Chicano child. Also included will be information on theories, methods, and resources necessary for developing and evaluating effective teaching strategies in meeting the educational needs.

198. Readings in Chicano Studies
(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Chicano Studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Readings in Chicano studies under the guidance of a faculty member in the department. Students must prepare a short plan of study and have it approved by the sponsoring faculty member.

199. Independent Studies
(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point *average for the preceding three quarters; (3) have completed at least two upper-division courses in Chicano Studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.*

199RA. Independent Research in Chicano Studies
(1-5) STAFF
Prerequisites: students must have 1) attained upper-division standing; 2) a minimum 3.0 grade-point average for the preceding three quarters; 3) completed at least two upper-division courses in Chicano Studies or related field; 4) consent of instructor and department. Students are limited to five units per quarter and 30 units total in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

596. Directed Reading and Research
(2-6) STAFF
Prerequisite: graduate standing and consent of instructor.

Independent research involving advanced study on a particular Chicano studies topic. A written proposal must be approved by the department chair. Number of units depends on nature of the proposal.

Classics

Department of Classics,
Division of Humanities and Fine Arts,
South Hall 4631;
Telephone (805) 893-3556
Department Chair: Robert Renehan

Faculty

Apostolos N. Athanassakis, Ph.D., University of Pennsylvania, Professor *(Greek poetry, classical linguistics)*

Alva W. Bennett, Ph.D., UC Berkeley, Associate Professor *(Latin literature, poetry)*

Howard W. Clarke, Ph.D., Harvard University, Professor Emeritus

Frances V. Hickson, Ph.D., University of North Carolina, Assistant Professor *(republican Latin, Roman religion)*

Borimir Jordan, Ph.D., UC Berkeley, Professor *(philology, epigraphy, history, religion)*

Robert Kallet-Marx, Ph.D., UC Berkeley, Assistant Professor *(Roman history, Roman oratory)*

Joseph Margon, Ph.D., University of Southern California, Professor Emeritus

Robert Renehan, Ph.D., Harvard University, Professor *(Greek and Latin literature, textual criticism, Greek philosophy and medicine)*

Jo-Ann Shelton, Ph.D., UC Berkeley, Professor *(Greek and Latin literature, Roman drama, Roman society)*

David C. Young, Ph.D., University of Iowa, Professor Emeritus

Affiliated Faculty

Lisa Kallet-Marx, Ph.D. (History)

The field of classics offers a challenging and rewarding course of study in the area of Greco-Roman culture. It is designed to accommodate both the aspirant to graduate studies in classics or related fields and the student primarily interested in a liberal arts major. The heart of classical studies is the collection of literary, historical, philosophical, and scientific writings from Homeric to Byzantine times. The reconstruction and interpretation of these writings is the primary responsibility of the classical philologist, whose colleagues are frequently specialists in some particular field such as epigraphy, papyrology, Greek political theory, classical art, mythology, or contemporary critical theory. All of these studies are interrelated, and classicists pursuing them are working toward the same goal: a wider picture of Greco-Roman culture as a means toward a clearer understanding of our own.

The several majors offered by the Department of Classics are oriented toward teaching jobs at the secondary, college, and university levels in such areas as classical civilization, ancient history, Greek and Latin literature, archaeology, Greek philosophy, and the Greek and Latin languages. After completing specific prerequisites, students with a bachelor's degree in any under-graduate classics major are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

The department provides advising to undergraduate and graduate students. Course descriptions are prepared and distributed before the start of each quarter, and a brochure is available describing the undergraduate programs.

Undergraduate Program

Bachelor of Arts—Classics

Preparation for the major. Greek 1, 2, 3, 50, and Latin 1, 2, 3, 50 (or equivalents) with a grade of C or higher; History 4A-B; Philosophy 21A.

Upper-division major. A minimum of 36 units in upper-division Greek and Latin courses numbered 106 or higher; the minimum in either language is 12 units. Up to 8 units of Greek 199 and Latin 199 may be taken passed/not passed. Religious Studies 139 may be counted as an upper-division Greek course.

At least one year of German is strongly recommended for the student who intends to pursue the field of classics beyond the B.A. degree. Some electives should be chosen from Classics 35-40 and from related courses in art history, history, and philosophy.

Bachelor of Arts—Greek

Preparation for the major. Greek, 1, 2, 3, 50 (or equivalents) with a grade of C or higher; History 4A-B; Philosophy 21A.

Upper-division major. A minimum of 36 units in upper-division Greek or Latin courses numbered 106 or higher; the minimum in Greek is 26 units. Up to 8 units of Greek 199 may be taken passed/not passed.

Bachelor of Arts—Latin

Preparation for the major. Latin 1, 2, 3, 50 (or equivalents) with a grades of C or higher; History 4A-B; Philosophy 21A.

Upper-division major. A minimum of 36 units in upper-division Latin or Greek courses numbered 106 or higher; the minimum in Latin is 26 units. Up to 8 units of Latin 199 may be taken passed/not passed.

Bachelor of Arts—Classical Archaeology

Preparation for the major. Classics 37, 38, 40; Anthropology 3; History 4A; Art History 6A; Greek or Latin 1, 2, 3, 50, and 106, (or equivalents) as appropriate to concentration below.

Upper-division major. Forty to 42 upper-division units, including Anthropology 100, Anthropology 181 or 183, and either a Greek or Roman concentration. Completion of the Greek or Roman concentration will not be acknowledged on the student's official transcripts or diploma. The final upper-division course may be taken from any Greek or Latin course numbered 111 or higher or from any of the following: Art History 152A, 153A-B.

Greek concentration: Classics 100A; History 111A-B, 112A; choice of three of the following six: Art History 152E-F-J, Classics 107, 180A-B-D.

Roman concentration: Classics 100B; History 113A-B-P; choice of three of the following seven: Art History 152G-H-I-K-L, Classics 108, 180A-D.

Bachelor of Arts—Classical Civilization

Preparation for the major. Classics 37, 38, 40; Philosophy 21A; Greek or Latin 1, 2, 3, and 50 (or equivalents).

Upper-division major. Forty upper-division units distributed among the groups indicated below, including Classics 100A-B (8 units), at least 8 units from Group 1, and at least 20 units from Groups 2-4, with a minimum of one course in each group. The tenth required course may come from any of the above groups, or Greek or Latin 106. Up to 8 units of Greek or Latin 199 may be taken passed/not passed in the major.

Group 1: Classics 102, 120, 125, 130, 135

Group 2: History 111A-B, 112A-F, 113A-B; Political Science 187; Classics 105

Group 3: Classics 101, 106, 107, 108; Philosophy 151, 152, 153, 156, 195; Religious Studies 116A-B, 128, 131B, 134A-B

Group 4: Art History 152E-F-G-H-I-J-K-L; Classics 180A-B-D

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Classics

Admission

In addition to the general requirements for admission to graduate status, applicants should have an undergraduate major or equivalent in Greek, Latin, or Classics. Other students may be admitted if they demonstrate proficiency in the languages, but they will be required to make up any deficiencies in their undergraduate training in addition to completing the regular coursework for the M.A. degree. The department requires that students submit Graduate Record Examination scores as part of their application material.

Because the M.A. program in classics is designed to prepare students for the Ph.D., students should normally apply for admission to both. However, students wishing to continue in the Ph.D. program must complete the M.A. program at a level of distinction high enough to qualify them for further study.

Degree Requirements

Thirty-six units, 24 of which must be in graduate courses within the department; the remaining units may come from upper-division courses in the department or from approved courses in other departments if they are relevant to the student's program.

Classics 201 (Proseminar) and Classics 211, 212, 213 (History of Greek and Latin Literature) are required of all M.A. candidates. In addition, candidates must meet the following requirements: (1) reading knowledge of either German, French, or Italian (by examination); (2) Greek and Latin sight translations (by examination); (3) Greek or Latin prose composition (by course credit); (4) two courses in Greek and Roman history. Full details concerning the M.A. requirements are available upon request.

Doctor of Philosophy—Classics

Admission

The candidate for admission must present an M.A. in classics from UC Santa Barbara, or the equivalent from another institution. Candidates accepted directly into the Ph.D. program must submit Graduate Record Examination scores. Admission to the Ph.D. program is dependent upon proof of the ability to do research at the Ph.D. level.

Degree Requirements

Students are required to spend six quarters in residence. There are no unit requirements. Required courses include Classics 201 (Proseminar); Classics 211, 212, and 213 (History of Greek and Latin Literature); Greek 240A-B and Latin 210A-B (Greek and Latin Prose Composition). Students must have satisfied the UCSB M.A. history requirement or its equivalent.

The following examinations are required before the student will be advanced to candidacy: Greek or Roman history, Latin literature, Greek literature, special topic or ancillary discipline, Greek sight examination, Latin sight examination, and second foreign language (German, if student has not already passed a German examination).

The oral qualifying examination is taken after all other written examinations have been passed. Upon successful completion of the examination, the student will be advanced to candidacy and will proceed with the dissertation. Full details concerning the Ph.D. requirements are available upon request.

Classics Courses

Yearly schedule varies. Not all courses are offered each quarter.

Courses Taught in English

LOWER DIVISION

20A. Latin in Current English
(4) STAFF

Study of Latin element in English etymology. No knowledge of Latin necessary. (Not offered 1992-93)

20B. Greek in Current English
(4) STAFF

Study of Greek element in English Etymology. No knowledge of Greek necessary. (Not offered 1992-93)

21. Greek and Latin Roots in English
(4) STAFF

The purpose of the course is to teach the student how to single out those Greek/Latin word roots which are functional and productive in English, and how to use them to build up vocabulary qualitatively and quantitatively. (SS)

35. The Ancient Novel
(4) STAFF

Intensive reading of six of the extant ancient Greek and Roman novels in translation (Chariton, Longus, Heliodorus, Achilles, Petronius and Apuleius), concentrating on their form, content, and influence on the later tradition of the European Novel.

36. Ancient Epic and Narrative
(4) BENNETT

A study in translation of the Iliad, Odyssey, Aeneid, and such works as Apollonius' Argonautica, Ovid's Metamorphoses, and short narrative poems of the Alexandrian and Neoteric poets.

37. Greek Literature in Translation
(4) STAFF

Reading and lecture survey of principal Greek writers, such as Homer, Pindar, and Thucydides.

38. Latin Literature in Translation
(4) BENNETT

Reading and lecture survey of principal Roman writers, such as Catullus, Horace, and Vergil.

39. Women in Classical Literature
(4) STAFF

An in-depth study of the portrayal of women in selected Greek and Latin classical authors from the seventh century B.C. to the second century B.C. and this portrayal's relationship to the literary, historical, and social backgrounds of the works concerned.

40. Greek Mythology
(4) STAFF

Study of the rationale of mythology, and the various patterns of mythography. Readings in primary literary sources. (F,W,S)

99. Introduction to Research
(1-3) STAFF

Prerequisites: consent of instructor and department chair. May be repeated to a maximum of 6 units.

Directed study, oriented toward research, to be arranged with individual faculty members. Course offers exceptional students an opportunity to participate in a research project or group.

UPPER DIVISION

Prerequisites for all upper-division classics courses are: upper-division standing, or one prior course in classics, or consent of instructor.

100A-B. Greek and Roman Civilization
(4-4) CLARKE, JORDAN, SHELTON

Classics 100A is not a prerequisite for Classics 100B.

Introduction to the various aspects of Greco-Roman civilization such as art, education, daily life, festivals, law, religion, science, and sports. 100A: Greek, 100B: Roman. (W,S)

101. The Greek Intellectual Experience: From Poetry to Philosophy
(4) RENEHAN

A survey of the major Greek beliefs about such concepts as the nature of man — body, soul, afterlife, gods and men, man in the cosmos— from Homer to Plato. Readings (in translation) of poetic, philosophical, and medical texts.

102. Greek Tragedy in Translation
(4) STAFF

Plays by Aeschylus, Sophocles, and Euripides in English translation. The role of tragedy in Greek culture and literature.

105. Ancient Athletics
(4) STAFF

Study of specific sports and events, history of ancient Olympics and other meets, and of individual achievements; professionalism, training, facilities, and place of athletics in Greek culture, literature, and art. (Not offered 1992-93)

106. Magic and Medicine in Ancient Greece
(4) RENEHAN

The old and the new in classical Greek modes of thought; primitive religious and magical beliefs and scientific medical teachings. A study in the intellectual revolution of Greece. Readings in primary literary sources in translation and secondary literature. (Not offered 1993-94)

107. Survey of Greek Religion
(4) STAFF

An introduction to basic Greek religious beliefs and attitudes. Both literary and nonliterary documents will be studied (in translation) for their evidential value. (Not offered 1993-94)

108. Pagan Religion and Cult in Ancient Rome
(4) HICKSON

A study of private and public religion in the Roman Republic, including beliefs, rituals, and structures; also its relationship to magic, philosophy, and foreign religions. Ancient sources, literary and nonliterary (in translation), will be studied.

120. Greek and Latin Lyric Poetry
(4) STAFF

Development, forms, and interpretation of ancient lyric poetry; such authors as Sappho, Pindar, Catullus, and Propertius in English translation. (Not offered 1993-94)

125. Greek and Roman Historians in Translation
(4) STAFF

Development of history as a genre; such authors as Herodotus, Thucydides, Livy, and Tacitus in English translation. (Not offered 1993-94)

130. Comedy and Satire in Translation
(4) BENNETT

The comic playwrights, such as Aristophanes and Plautus, and satirists, such as Lucian and Juvenal, in English translation.

180A-B. Mediterranean Archaeology
(4-4) JORDAN, SHELTON

A: Monuments of the Bronze Age in the Aegean.

B: Monuments of the archaic and classical periods in the Greek world (including south Italy and North Africa).

180D. Roman Archaeology
(4) SHELTON

A survey of the major monuments and sites in Rome and near the Bay of Naples.

198. Special Readings
(1-4) STAFF

Prerequisites: consent of instructor and department chair. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in classics. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Total credit for this course is limited to 6 units.

Individual or small group reading and study in subjects not included in the regular curriculum.

199. Independent Studies in Greek and Latin
(1-5) STAFF

Prerequisites: consent of instructor and department chair. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in classics. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Independent study in areas in which both Greek and Latin are necessary.

199RA. Independent Research Assistant
(1-5) STAFF
Prerequisites: Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in Classics; 4) have consent of instructor and department.

To cooperate on an active basis with a professor on a research project.

GRADUATE COURSES

Graduate standing is prerequisite to all graduate courses.

201. Proseminar
(2) STAFF

Bibliography, methodology, and history of classical scholarship.

202. Comparative Greek and Latin Morphology and Syntax
(4) ATHANASSAKIS
May be repeated for credit to a maximum of 12 units.

Introduction to classical linguistics; history of Greek and Latin in their Indo-European context (including Mycenaean Greek).

211-212-213. History of Greek and Latin Literature
(2-2-2) STAFF

Survey of development of poetry and prose; major authors. Special readings and reports.

246. Metrics
(4) RENEHAN
May be repeated for credit to a maximum of 8 units.

Introduction to Greek and Latin meter; both theory and practice will be stressed. Chief aim: to acquaint students with meters in actual use. Some account of history of metrical scholarship.

596AA-ZZ. Directed Reading and Research
(2-4) STAFF
Prerequisite: written proposal approved by department chair and graduate adviser.

Individual tutorial. (F,W,S)

597. Preparation for Comprehensive Exams
(1-6) STAFF
Prerequisite: consent of graduate adviser and chair. No unit credit allowed toward degree.

Study for master's comprehensive examinations and Ph.D. examinations. (F,W,S)

598AA-ZZ. Master's Thesis Research and Preparation
(1-4) STAFF
Prerequisites: graduate standing and consent of instructor and graduate adviser. No unit credit allowed toward degree.

Independent research. (F,W,S)

599. Ph.D. Dissertation Presentation
(2-12) STAFF

Terminal preparation of the dissertation. (F,W,S)

Greek Courses

LOWER DIVISION

1. Elementary Greek
(4) STAFF

Greek 1 is the first of a three-quarter sequence intended to introduce the student to the fundamentals of classical Greek. Fundamentals of grammar and syntax; reading of elementary texts. (F)

2. Elementary Greek
(4) STAFF
Prerequisite: Greek 1 or equivalent.

Continuation of Greek 1. (W)

3. Intermediate Greek
(4) STAFF
Prerequisite: Greek 2 or equivalent

Review of syntax and reading of Attic prose writers. (S)

50. Introduction to Prose: Xenophon, Plato
(4) STAFF
Prerequisite: Greek 3 or equivalent.

Reading and syntactical analysis of Attic prose writers, such as Xenophon, Plato. (F)

UPPER DIVISION

Greek 50 or 106 or equivalent is prerequisite to Greek 107 through 173 (except Greek 141).

106. Introduction to Poetry: Homer
(4) STAFF
Prerequisite: Greek 3 or equivalent.

Reading in the Iliad. Homeric grammar and metrics. (W)

107. Lucian
(4) STAFF
May be repeated for credit to a maximum of 8 units.

Selected readings from Lucian. The readings will be of varying character and will be calculated to help the student make the transition from easy to more difficult Greek prose.

108. Attic Orators: Demosthenes, Andocides, and Isocrates
(4) JORDAN
May be repeated for credit to a maximum of 12 units.

A study of the language, style, and historical background of famous orations by Demosthenes, Andocides, and Isocrates.

138. Pre-Socratic Philosophers
(4) STAFF

Philological study in materials ranging from Thales through Democritus.

142A. Plato
(4-4) RENEHAN
May be repeated for credit to a maximum of 12 units.

Reading and study of a complete Socratic dialogue. A different work is read each time the course is offered.

142B. Plato
(4) RENEHAN
May be repeated for credit to a maximum of 12 units.

A further study of the dialogues of Plato. Different work is read each time the course is offered.

143. Post-Platonic Philosophers
(4) RENEHAN
May be repeated for credit to a maximum of 8 units.

Philological study in materials ranging from Aristotle through Plotinus.

151. Euripides
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Introduction to the tragic genre. Reading and study of a complete play.

152. Sophocles
(4) STAFF
May be repeated for credit to a maximum of 12 units.

A complete tragedy, plus readings in Sophoclean literature.

153. Aeschylus
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Study of a complete tragedy. Problems of textual criticism.

154. Aristophanes
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Reading of a complete play; history of Greek comedy.

161. Hesiod, Theognis, and Solon
(4) STAFF
May be repeated for credit to a maximum of 8 units.

An introduction to archaic religion, mythology, ethics, and historiography.

162. Herodotus
(4) JORDAN
May be repeated for credit to a maximum of 8 units.

Reading and study of the history of Herodotus.

163. Thucydides
(4) JORDAN
May be repeated for credit to a maximum of 12 units.

Reading and research in the historical, literary, and philological aspects of Thucydides.

165. Xenophon
(4) STAFF
May be repeated for credit to a maximum of 12 units.

A study of the language, style, and background of his historical works.

171. Lyric Poets and Homeric Hymns
(4) STAFF
May be repeated for credit to a maximum of 8 units.

Exclusive of the choral poets and the primarily ethical elegists. The fragments of Alcaeus, Anacreon, Archilochus, Sappho, Tyrtaeus, and others; selected Homeric hymns.

172. Pindar
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Reading, interpretation, metrical study, and textual criticism. Introduction to other choral poets.

173. Hellenistic Poets
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Introduction to the poetry of the Alexandrian period, such as that by Apollonius Rhodius, Callimachus, and Theocritus.

199. Independent Studies in Greek
(1-5) STAFF
Prerequisites: consent of instructor and department chair. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Greek. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Independent investigations in Greek language and literature.

GRADUATE COURSES

Greek courses 207-273 address the same subjects as the undergraduate courses bearing the corresponding numeration. However, treatment of the subjects is at the graduate level.

207. Lucian
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units. Different work is read each time the course is offered.

(cf. 107)

208. Attic Orators
(4) JORDAN
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units. Different work is read each time the course is offered.

(cf. 108)

238. Pre-Socratic Philosophers
(4) STAFF
Prerequisite: graduate standing.

(cf. 138)

240A-B-C. Greek Prose Composition
(2-2-2) RENEHAN
Prerequisite: Greek 50, 106, or equivalent.

Advanced grammar, sight-reading, and extended prose composition. (Not offered 1993-94)

241AA-ZZ. Seminar in Greek Literature
(4) STAFF
Prerequisite: Classics 201 or consent of instructor. Course number may be repeated, but not same letter.

Intensive study and research in a Greek author or genre. Author varies.

242A-B. Plato
(4-4) RENEHAN
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 142 A-B)

243. Post-Platonic Philosophers
(4) RENEHAN
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 143)

250. Greek Papyrology
(4) STAFF
Prerequisite: graduate standing.

A study of the Greek papyri, especially with a view to their value in reconstructing Greek literary sources.

251. Euripides
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 151)

252. Sophocles
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 152)

253. Aeschylus
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 153)

254. Aristophanes
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 154)

259. Greek Literary Theory
(4) STAFF
Prerequisite: graduate standing.

This course provides a comprehensive and critical view of the nature of Greek critical theory and practice from the Sophists to the Second Sophistic, and will touch on the relationship between ancient and modern critical theory.

261. Hesiod, Theognis, and Solon
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 161)

262. Herodotus
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 162)

263. Thucydides
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 163)

265. Xenophon
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 165)

271. Lyric Poets and Homeric Hymns
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 171)

272. Pindar
(4) STAFF
Prerequisite: graduate standing.

(cf. 172)

273. Hellenistic Poets
(4) YOUNG
Prerequisite: graduate standing. May be repeated for credit to a maximum 12 units.

(cf. 173)

596AA-ZZ. Directed Reading and Research
(2-4) STAFF
Prerequisite: written proposal approved by department chair and graduate adviser.

Individual tutorial. (F,W,S)

598AA-ZZ. Master's Thesis Research and Preparation
(1-4) STAFF
Prerequisites: graduate standing and consent of instructor and graduate adviser. No unit credit allowed toward degree.

Independent research. (F,W,S)

599. Ph.D. Dissertation Presentation
(2-12) STAFF

Terminal preparation of the dissertation. (F,W,S)

Latin Courses

LOWER DIVISION

1. Elementary Latin
(4) STAFF

Latin 1 is the first of a three-quarter sequence intended to introduce the student to the fundamentals of classical Latin. Fundamentals of grammar and syntax; reading of elementary texts. (F)

2. Elementary Latin
(4) STAFF
Prerequisite: Latin 1 or equivalent.

Continuation of Latin 1. (W)

3. Intermediate Latin
(4) STAFF
Prerequisite: Latin 2 or equivalent.

Review of forms and syntax and reading of Roman prose writers. (S)

10A-B. Beginning Latin—Accelerated Sequence
(6-6) BENNETT

The two-quarter sequence covers the same material as the regular sequence, Latin 1-2-3, but at a more rigorous pace. Designed for students, from freshmen to graduates, who wish to compress their early study of Latin into two quarters. Latin 10B and Latin 3 fulfill the same prerequisites. (W,S)

11SS. Intensive Beginning Latin
(8) STAFF

This course is intended to cover all the material normally covered in a first-year Latin course. There will be much emphasis on grammar; actual Latin passages of moderate difficulty will be read. (SS; Not offered in 1991-92)

50. Introduction to Latin Prose
(4) STAFF
Prerequisite: Latin 3 or 10B, or equivalent.

Selected authors. Reading and syntactical analysis of prose writers, such as Caesar, Cicero, and Nepos. (F)

UPPER DIVISION

Latin 50 or Latin 106 or equivalent is prerequisite to Latin 111 through 138.

103. Medieval Latin Readings
(4) STAFF
Prerequisites: Latin 1, 2, and 3 (or their equivalents), or consent of instructor.

Graded and selected reading and study of medieval Latin prose and verse writers.

106. Introduction to Latin Poetry
(4) STAFF
Prerequisite: Latin 3 or 10B or equivalent.

Selected authors; Catullus, Ovid, Martial. Grammar and metrics of Latin poetry. (W)

111. Roman Epic
(4) JORDAN
Prerequisite: Latin 50 or Latin 106 or equivalent. May be repeated for credit to a maximum of 8 units.

Backgrounds. Vergil. Introduction to later epic poets, such as Lucan and Statius.

112. Roman Elegy
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Reading and study of Propertius and other elegists.

113. Roman Satire
(4) STAFF
Prerequisite: Latin 50 or Latin 106 or equivalent. May be repeated for credit to a maximum of 8 units.

Horace, Juvenal, Persius, and Martial.

114. Roman Comedy
(4) BENNETT
Prerequisite: Latin 50 or Latin 106 or equivalent. May be repeated for credit to a maximum of 8 units.

Plautus and Terence. Reading of complete plays and study of the origins of Roman Comedy.

116A-B. Cicero: Essays, Letters, and Orations
(4-4) STAFF
May be repeated for credit to a maximum of 12 units.

Philosophical and rhetorical works and speeches.

117. Prose of the Empire
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Study and reading selected from such authors as Petronius, Seneca, and Quintilian.

118. Roman Epistles
(4) MARGON
Prerequisite: Latin 50 or Latin 106 or equivalent. May be repeated for credit to a maximum of 8 units.

Reading, translation, and discussion of the letters of Cicero and of Pliny.

120. Sallust
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Reading and philological study.

122. Livy
(4) STAFF
May be repeated for credit to a maximum of 8 units.

Study of the structure and Latinity of Livy. Extensive reading.

123. Tacitus
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Reading in the major works. Study of Tacitean style and models.

124. Caesar
(4) STAFF
May be repeated for credit to a maximum of 8 units.

Study of Caesar as historian and Latin prose stylist. Extensive reading.

134. Lucretius
(4) SHELTON
May be repeated for credit to a maximum of 12 units.

Reading, translation, and discussion of style and meter of Lucretius' epic poem De Rerum Natura.

135. Vergil
(4) SHELTON
Prerequisite: Latin 50 or Latin 106 or equivalent. May be repeated for credit to a maximum of 8 units.

Reading , translation, and discussion of style and meter of Vergil's epic poem Aeneid, as well as his Georgics and Eclogues.

136. Ovid
(4) STAFF

Reading, translation, and discussion of style and metre of Ovid's epic poem Metamorphoses and of his Fasti.

137. Catullus
(4) STAFF
May be repeated for credit to a maximum of 12 units.

Reading, translation, and discussion of style and metre of his poems.

138. Horace
(4) BENNETT
May be repeated for credit to a maximum of 12 units.

Reading, translation, and discussion of the Odes, Satires, and Epistles.

140. The Latin of the Vulgate Bible and the Early Church
(4) STAFF
Prerequisite: one year of Latin or consent of instructor.

Extensive readings from the Latin Bible (Old and

New Testaments) and from other Christian Latin documents. Heavy emphasis on fundamentals of syntax and the differences between classical and vulgar Latin.

199. Independent Studies in Latin
(1-5) STAFF
Prerequisites: consent of instructor and department chair. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Latin. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Independent investigations in Latin language and literature.

GRADUATE COURSES

Latin courses 211-238 address the same subjects as the undergraduate courses bearing the corresponding numeration. However, treatment of the subjects is at the graduate level.

204. Graduate Reading Course in Plautus
(4) STAFF
Prerequisite: graduate standing in classics.

Reading of one or more complete plays with intensive study of various problems, e.g., origins of Roman comedy, Plautine textual criticism and metrics, nature of early Latin language.

205. Seminar in Senecan Tragedy
(4) SHELTON
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

Research and discussion of the tragedies of Seneca.

206. Seminar in Neronian Literature
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

The age of Nero, prolific in literature and philosophy, had certain common themes, such as the new golden age and the nature of the principate. Selections from both Senecas, Lucan, Persius, Calpurnius Siculus will be used to explore those themes.

210A-B-C. Latin Prose Composition
(2-2-2) STAFF
Prerequisite: Latin 50, 106, or equivalent.

Advanced grammar and extended prose composition. (F,W,S)

211. Roman Epic
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units. Different work is read each time the course is offered.

(cf. 111)

212. Roman Elegy
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 112)

213. Roman Satire
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 113)

214. Roman Comedy
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 114)

215. Seminar in the Roman Novel
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

Works such as Petronius' *Satyricon* and Apuleius' *Metamorphoses*. A study of the literary problems.

216A-B. Cicero: Essays, Letters, and Orations
(4-4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 116A-B)

217. Prose of the Empire
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 117)

218. Roman Epistles
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units. Different work is read each time the course is offered.

(cf. 118)

220. Sallust
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 120)

221A-Z. Seminar in Latin Literature
(4) STAFF
Prerequisite: Classic 201 or consent of instructor. Course number may be repeated, but not same letter.

Intensive study and research in a Latin author or genre. Author varies.

222. Livy
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 122)

223. Tacitus
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 123)

224. Caesar
(4) STAFF
Prerequisites: graduate standing. May be repeated for credit to a maximum of 8 units.

(cf. 124)

234. Lucretius
(4) SHELTON
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 134)

235. Vergil
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units. Different work is read each time the course is offered.

(cf. 135)

236. Ovid
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units. Different work is read each time the course is offered.

(cf. 136)

237. Catullus
(4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 137)

238. Horace
(4) BENNETT
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

(cf. 138)

596AA-ZZ. Directed Reading and Research
(2-4) STAFF
Prerequisite: written proposal approved by department chair and graduate adviser.

Individual tutorial. (F,W,S)

598AA-ZZ. Master's Thesis Research and Preparation
(1-4) STAFF
Prerequisites: graduate standing and consent of instructor and graduate adviser. No unit credit allowed toward degree.

Independent research. (F,W,S)

599. Ph.D. Dissertation Presentation
(2-12) STAFF

Terminal preparation of the dissertation. (F,W,S)

Communication

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Faculty

James J. Bradac, Ph.D., Northwestern University, Professor *(interpersonal communication and language studies)*

Edward I. Donnerstein, Ph.D., Florida State University, Professor *(psychological effects of mass communication, media violence)*

Seth F. Geiger, Ph.D., Stanford University, Assistant Professor *(cognitive processing of television, mass communication theory, mass media effects)*

Howard Giles, Ph.D., University of Bristol, Professor *(language and intercultural communication, intergenerational communication)*

Kathy Kellermann, Ph.D., Northwestern University, Associate Professor *(interpersonal communication, conversational behavior, cognition and communication)*

Dale Kunkel, Ph.D., University of Southern California, Assistant Professor *(children and television, communication policy and regulation)*

Daniel G. Linz, Ph.D., University of Wisconsin, Associate Professor *(mass media policy and law, mass media effects)*

Anthony Mulac, Ph.D., University of Michigan, Professor *(interpersonal communication, gender and communication, language behavior)*

Rollin W. Quimby, Ph.D. University of Michigan, Professor Emeritus

Edwin R. Schoell, Ph.D., University of Denver, Professor Emeritus

David R. Seibold, Ph.D., Michigan State University, Professor *(small group and organizational communication)*

John M. Wiemann, Ph.D., Purdue University, Professor *(interpersonal and nonverbal behavior, communicative competence)*

Barbara J. Wilson, Ph.D., University of Wisconsin, Associate Professor *(mass media effects, children and television)*

Affiliated Faculty

Don H. Zimmerman, Ph.D. (Sociology)

The Department of Communication offers a broad undergraduate curriculum covering the areas of language, mass communication, and interpersonal communication (including group, organizational, and intercultural communication). The program is concerned with human communication theory and research; *it* *does not provide vocational, media production, or technical training.* Degrees are offered at the B.A., M.A., and Ph.D. levels. Prospective majors are urged to consult with a peer adviser or departmental representative.

After completing specific prerequisites, students with a bachelor's degree in communication are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—Communication

The major in communication consists of two tiers of courses: pre-major (Communication 1, 88, 89; PSTAT 5S, or 5A, or 5E, or Psychology 5); and upper-division courses.

Preparation for the major. Students must complete each of the following requirements before petitioning the department to change from pre-major to major status: (1) Communication 1, 88, and 89; (2) PSTAT 5S or 5A or 5E, or Psychology 5; (3) Communication 1, 88, 89, and PSTAT 5S, or 5A, or 5E, or Psychology 5 must be completed with a combined grade-point average in these four courses of 3.0 or better. In completing the four courses above, students must earn no grade lower than a C-.

Before these preparatory requirements are completed, and after the completion of at least one of the four courses above (Communication 1, 88, 89, PSTAT 5S, or 5A, or 5E, or Psychology 5), students may declare a pre-communication major. Upon successful completion of these requirements, students may petition for full major status, *generally prior* to the accumulation of 100 units, but not *after* the completion of 144 units. Admission to the pre-major does not guarantee admission to the communication major regardless of the number of communication units taken.

Upper-division major. Forty upper-division units are required for the major. There are no specific required courses, but the following credit requirements and limitations are in effect: (1) students may apply one elective course outside the Department of Communication from the following courses: Economics 184; Linguistics 130, 131, 132, 133, 185; Political Science 154, 171; Psychology 102, 109, 127, 138, 140; Sociology 133, 136, 136Q, 141, 143; (2) students may apply only 4 units each of Communication 156 and 157; (3) students may apply only 12 units of Communication 181; (4) students may apply only 12 units of Communication 194 and 199; (5) students may only apply a total of 16 units combined of Communication 181, 194, and 199.

Senior Honors Program

Qualified majors will be invited to participate in a senior honors program (Communication 180 and 181) offering the opportunity to work closely with a faculty sponsor on an in-depth project culminating in a senior thesis. Requirements include senior standing, completion of at least 12 upper-division major units, minimum grade-point average of 3.5, and sponsorship by a faculty member. Students successfully completing the program will be eligible for graduation with Distinction in the Major.

Graduate Program

Graduate training in the Department of Communication is provided in language, mass communication, and interpersonal communication (including group, organizational, and intercultural communication). In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB." Since the M.A. degree is designed to prepare students for the Ph.D., students without a master's degree should apply to both degree programs. Students interested in attaining a master's degree only will normally not be considered for the program.

Admission

For admission to the five-year (maximum) M.A./Ph.D. program, applicants will be evaluated on their undergraduate record (usually majoring in communication); statement of purpose; the verbal, quantitative, and analytical portions of the Graduate Record Examination; and three letters of recommendation. Normally, those admitted to the Ph.D. program only will have pursued master's level research by means of an empirical thesis, although this is not necessary if applicants can demonstrate research experience and/or have outstanding potential for doctoral research.

Applications may be obtained from the Department of Communication. Fellowships and teaching assistantships are available, although competition for these is intense. The deadline for fellowship applications and for admittance to the program is January 31.

Degree Requirements

The department offers a plan leading to the degree of Ph.D. in communication, the successful pursuit of which demands that the student complete a high-caliber thesis for the master's degree, normally by the end of two years. Assuming faculty endorsement of doctoral research potential, the student then works toward completing coursework, undertaking two comprehensive examinations, and completing a dissertation. Courses include 24 statistics or tool equivalent units, a quarterly research colloquium, directed research (taken after the sixth quarter), and 12 units of cognate courses taken outside the department. Students can opt for or be recommended by faculty to pursue a plan which terminates their studies with a master's degree only. This plan requires a minimum of 44 units of coursework and a comprehensive examination. Students entering with a master's degree in communication from another university will be required to take a screening examination by the end of their first year in residence. Such students are required to take the theoretical core, the quarterly research colloquium, and directed research. Methods, tool, and cognate requirements may be deemed satisfied in part by previous work.

Interdisciplinary Program in Human Development

Graduate students in communication can participate in UCSB's Interdisciplinary Human Development Program as part of their doctoral training. The program focuses on developmental theory and research across the lifespan, and is particularly relevant to those working on dissertations concerning communication and human development. The structured set of courses, taught individually and collaboratively by faculty from a variety of disciplines, can be used to fulfill the Department of Communication's cognate requirement for the Ph.D. degree. Students interested in this program should see the graduate adviser.

Communication Courses

LOWER DIVISION

1. Introduction to Communication
(4) STAFF
Basic terms, concepts, and contexts of communication are introduced. These are organized into three basic analytic categories: factors influencing message encoding, the nature of messages, and message uses and effects.

1H. Introduction to Communication/Honors
(1) STAFF
Prerequisites: concurrent enrollment in Communication 1; consent of instructor; honors students only.
Enrichment section accompanying Communication 1 for Letters and Science honors students.

88. Communication Research Methods
(4) STAFF
Prerequisite: PSTAT 5S or 5A or 5E, or Psychology 5.
The theoretical and practical concerns underlying procedures most commonly used in communication research. Students will interpret findings of communication research and better understand research methods. The course serves as preparation for advanced coursework in communication.

89. Theories of Communication
(4) STAFF
Prerequisite: Communication 1.
Discussion of the process of communication theory construction, including a survey of social science paradigms and major theories of communication.

95. Nature and Impact of the Mass Media
(4) STAFF
Examines the structure and functioning of various media industries, from print to electronic communication. Explores factors that influence the creation and distribution of media messages, and considers the effects of media content on audiences and social institutions.

UPPER DIVISION

106. Small Group Communication
(4) STAFF
Prerequisites: Communication 1, 88, 89. Open only to communication and interdisciplinary studies majors.
Theory and research in communication in group and work unit contexts. Includes experiential laboratory in which students observe and analyze communication processes in small groups.

107. Interpersonal Communication
(4) WIEMANN
Prerequisites: Communication 1, 88, 89. Open only to communication and interdisciplinary studies majors.
Survey of theories of interpersonal communication in social and intimate relational contexts, with particular attention to role enactment, deterioration of relationships, and communicative competence.

108. Acquisition of Communicative Behavior

(4) BRADAC, WIEMANN

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary majors.

Survey of research and theory on the development of communicative competence.

109. Language and Human Behavior

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

A study of the role of language in our behavioral patterns. Discussions, demonstrations and experiments are supplemented by readings from a wide variety of authorities on language science. Includes both verbal and nonverbal aspects of language behavior.

110. Language and Communication Processes

(4) BRADAC

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Theory and research on the role of language in various communication contexts. Topics include: the nature of signs and symbols; language, perception and thought; social psychological factors in verbal encoding; and language and impression formation.

111. Nonverbal Communication in Human Interaction

(4) WIEMANN

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

A review of theories and empirical research on the role of paralinguistic and kinesic message-behaviors in face-to-face communication. Students will conduct and report original field or laboratory studies of nonverbal communication.

112. History of Mass Communication Institutions

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Development of mass media institutions, such as press, radio, television. Emphasis on relationship between shape of media institutions and economic, government, and social controls, past, present, and future.

113. Mass Communication and Human Behavior

(4) STAFF

Prerequisites: Communication 1, 88, 89; open to communication and interdisciplinary studies majors only.

Theories of mass communication in relation to interpersonal communication processes. Analysis of behavior of audiences of the mass media. Emphasis on family interaction, persuasion theory, media effects on children and minorities, sex-role stereotyping, and techniques of audience measurement.

114. Mass Communication and Society

(4) STAFF

Prerequisites: Communication 1, 88, 89; open to communication and interdisciplinary studies majors only.

Theoretical analysis of the processes and effects of mass media on society. Special attention to social theories that inform our understanding of mass communication.

117. Persuasion

(4) KELLERMANN

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors. Juniors and Seniors only.

Analysis and synthesis of current persuasion theory to understand how messages influence attitudes and behaviors. Topics covered include: theories for altering attitudes and behaviors, the persuasion process, and the use of persuasion in applied contexts.

119. Intergenerational Communication

(4) GILES

Prerequisites: Communication 1, 88, and 89. Open to communication and interdisciplinary studies majors only.

Introduction to our changing communication needs as we age, the dynamics of intergenerational contact, and communicative consequences of being elderly.

120. Interviewing Theory and Practice

(4) STAFF

Prerequisites: Communication 1, 88, and 89; open only to communication and interdisciplinary majors.

Analysis of the interview as a unique communication context, including the application of theoretical concepts and practice in designing and conducting interviews of various types (e.g., surveys, employment, information giving, counseling).

121. Communication and Conflict

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Theory and research on communication and conflict in various contexts. Experiential laboratory in which students observe and analyze conflict through the use of simulations and exercises.

122. Organizational Communication

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Application of communication theory and research to ongoing organizations, with special emphasis on bureaucratic industrial organizations.

123. Cultural Influences on Communication

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Cross-cultural influences on communication processes. May deal with face-to-face or electronically mediated communication.

124. Family Communication

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Communication strategies and patterns in intimate, enduring relationships. Topics include partner selection, parenting, marital roles and conflict.

125. Pragmatics of Human Communication

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Interpersonal communication theory and research from an interactional perspective. Emphasis on the work of Gregory Bateson.

126. Gender and Communication

(4) MULAC

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Nonverbal and verbal differences and similarities in the messages of male and female communicators. Topics include: acquisition of gender-linked differences, effects they have in interpersonal settings, and their modification through interpersonal accommodation.

127. Discourse Analysis

(4) STAFF

Prerequisites: Communication 1, 88, 89. Open only to communication and interdisciplinary studies majors.

Survey of theory and technique of discourse analysis, with emphasis on how the study of language in its social and cognitive context illuminates social interaction.

128. Intergroup Communication

(4) GILES

Prerequisites: Communication 1, 88, and 89. Open to communication and interdisciplinary studies majors only.

Survey of theory and research concerning communication between various social groups (e.g., intersocial and interethnic groups), with emphasis on understanding the role communication plays in integrating and differentiating group members.

132. Mass Media Policy and Regulation

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies, law and society, and law and society criminal justice majors.

Introduction to the process by which communication policy is constructed, including analysis of the role of key participants. Survey of the fundamental regulatory structure governing broadcasting and other electronic media. Examination of current media policies.

133. Mass Communication and Children

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Examines children's reactions to mass media, emphasizing role of television. Includes analysis of children's cognitive processing of media and study of effects in such areas as violent portrayals, prosocial messages, and advertising content. Considers policy implications of research.

134. Developing Issues in Mass Communication

(4) GEIGER

Prerequisites: Communication 1, 88, and 89; 113 or 114; open to communication and interdisciplinary majors only, and others with consent of instructor.

Analysis of theory and research in how mass media messages are shaped by media institutions and how individuals process these messages. Emphasis placed on broadcast news, politics, and social campaigns.

135. Mass Communication and Ethnic/Racial Groups

(4) STAFF

Prerequisites: Communication 1, 88, 89; open only to communication and interdisciplinary studies majors.

Theory and analysis of the problems and characteristics of mass communication with reference to media ownership and structure, including content and effects of programs on ethnic/racial groups.

150. Advanced Group Communication

(4) STAFF

Prerequisites: Communication 106 and consent of instructor; open only to communication and interdisciplinary studies majors.

In-depth focus on salient issues in group communication. Covers relevant theory and research in topic area.

151. Advanced Interpersonal Communication

(4) STAFF

Prerequisites: Communication 107 or 108 and consent of instructor; open only to communication and interdisciplinary studies majors.

Intensive analysis of current theory and research in a selected area of interpersonal communication, with special attention to theory development and testing. Topics vary each quarter.

152. Advanced Organizational Communication

(4) STAFF

Prerequisites: Communication 122 and consent of instructor; open only to communication and interdisciplinary studies majors.

Intensive analysis of current theory and research in selected areas of organizational communication. Topics include organizational communication diagnosis and auditing, organizational innovation and change, and communication management.

155. Communication in Health Care Delivery

(4) STAFF

Prerequisites: Communication 107 and consent of instructor.

The role communication plays in the delivery and reception of health care from the perspectives of both provider and client.

156. Advanced Nonverbal Communication Analysis

(4) STAFF

Prerequisites: Communication 111 and consent of instructor; open only to communication and interdisciplinary studies majors.

Advanced study of paralinguistic and kinesic message-behavior in face-to-face communication. Pertinent nonverbal variables will be identified through survey of empirical research and applied to analysis of communication samples.

157. Advanced Language Behavior Analysis

(4) MULAC

Prerequisites: consent of instructor; open only to communication and interdisciplinary studies majors.

Advanced study of language behavior and its effects in various communication settings. Pertinent language variables will be identified through survey of empirical language-effects research and then applied to analysis of communication samples.

158. Advanced Language and Communication Processes

(4) STAFF

Prerequisites: Communications 109, 110, or 111 and consent of instructor; open only to communication and interdisciplinary studies majors.

Intensive scrutiny of current theory and research on linguistic aspects of communication. Topics will vary each quarter.

161. Advanced Mass Communication

(4) STAFF

Prerequisites: Communication 112, 113, or 114 and consent of instructor; open only to communication and interdisciplinary studies majors. May be repeated for a maximum of 12 units.

Investigation of current theory and research in a selected area of mass communication. Variable topics, including comparative media systems, social effects of specific genres, implications of new communication technologies.

170. Communication Law

(4) STAFF

Prerequisites: Communication 89; open to communication, interdisciplinary studies, and law and society majors only.

A historical survey of the development of the concept of free speech, and a study of First Amendment controversies in the United States during the twentieth century.

171. Quantitative Methods

(4) MULAC

Prerequisites: Communication 89 and consent of instructor.

The methodology for quantitative research in communication. Computation of standard statistical procedures, measurement theory, and experimental design.

172. Advanced Communication Theory and Research

(4) STAFF

Prerequisites: completion of one course from each relevant core area and consent of instructor. May be repeated for credit to a maximum of 12 units.

Integration and synthesis of theories and research between at least two core areas of communication. Variable topics, such as family relationships, health, or intercultural communication will be the focus of these integrations.

173. Qualitative Methods

(4) STAFF

Prerequisites: Communication 89; open only to communication and interdisciplinary studies majors.

Covers an array of interpretive techniques which seek to describe, decode, translate, and understand the meaning of naturally occurring communicative phenomena.

180. Senior Honors Seminar

(4) KUNKEL

Prerequisite: Junior standing with a 3.5 cumulative G. P. A.

Seminar offered spring quarter covering methodological, theoretical and procedural issues involved in undertaking a senior thesis.

181A-B-C. Senior Honors Thesis

(4) KUNKEL

Prerequisites: Communication 180; open to senior honors students only. A three-quarter sequence course with grades given for each course.

Independent work with faculty sponsor culminating in senior thesis.

191A. Practicum in Human Communication

(1) STAFF

Prerequisites: open to junior/senior majors of proven scholastic ability by consent of instructor; two upper-division courses in the practicum topic area. Course may be repeated for a maximum of 3 units.

Provides faculty supervision for students participating in formal, practical work experiences. Written proposal required.

191B. Applying Communication to Internships in Organizations

(4) STAFF

Prerequisites: open to senior communication majors only; 3.0 grade-point average; consent of instructor; and concurrent participation in an approved internship (minimum 100-hour commitment). Not open to students who have received credit for 191C.

Integrate field work experience with communication theory and current literature. Weekly lecture to be concurrent with internship in the field of communication. Lecture topics include theories of interpersonal communication, organization structures, management, and communication styles.

194. Group Studies for Advanced Students

(1-12) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated for a maximum of 12 units.

Selected topics in accordance with instructor's area of specialization.

199. Independent Studies in Communication

(1-5) STAFF

Prerequisites: open to seniors of proven scholastic ability by consent of chairman and instructor. Students must have 1) attained upper-division standing; 2) a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in communication. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Written proposal required.

199RA. Independent Research Assistance in Communication

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in communication; 4) have consent of instructor and department. Students are limited to 5 units per quarter and 12 units total in all 191/194/199/199RA courses

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

200. Communication Theory Construction

(4) WIEMANN, BRADAC

The nature of theory and theory building in human communication.

201. Communication Theory

(4) KELLERMANN

This course provides a broad overview to the study of human communication by surveying theories of language, interpersonal communication, persuasion, small group communication, organizational communication, and mass communication.

203. Measurement and Statistics in Communication Research

(4) MULAC

Measurement theory, experimental design and computation of standard statistical procedures. Students pilot test procedures for measuring communication variables in a research context.

204A. Research Methods in Communication

(4) DONNERSTEIN

Prerequisite: Communication 203 or consent of instructor.

Criticism of behavioral research in communication.

204B. Applications in Research Methods in Communication

(4) LINZ

Prerequisite: Communication Studies 204A or consent of instructor.

The course will provide students with hands-on experience with computer programs designed for analysis of communication-related data. Analyses will include, multiple regression, MANOVA, log linear and other advanced techniques.

206. Seminar: Group Communication

(4) STAFF

Readings in communication theory and design of research projects on small group communication.

207. Seminar: Interpersonal Communication

(4) WIEMANN

Analysis of theory and research related to interpersonal communication processes, with an emphasis on informal and intimate relationships. Development and implementation of student research.

210. Seminar: Language and Communication Processes

(4) BRADAC

Variable topics, focusing on the role of language in attribution and communication.

211. Seminar: Nonverbal Communication

(4) WIEMANN

Analysis of nonverbal behavior as communication, with special emphasis on design and implementation of research.

213. Seminar: Theories of Mass Communication

(4) STAFF

Cognitive and social process theories of mass communication. Design and implementation of research strategies for message and audience analysis.

214. Social Psychological Effects of the Mass Media

(4) GEIGER

Prerequisite: Communication 200 and 201A.

A survey of the psychological and social effects of the mass media. Focus will be on empirical research as it informs communication theory.

217. Seminar: Attitudes and Persuasion

(4) MULAC

Analysis and criticism of current theories of persuasion.

221. Seminar: Communication and Conflict

(4) STAFF

Theory and research on the process of communication in conflict situations.

222. Seminar: Organizational Communication

(4) STAFF

Analysis of communication in on-going organizations. Topics of interest include communication networks, decision making, communication climate, theories of management communication, etc.

223. Seminar: Communication and Culture

(4) STAFF

Theory and literature of the ethnography of communication, with particular reference to the question of how to discover, describe, and interpret a community's culture patterns of communication.

224. Seminar: Family Communication

(4) STAFF

Theory and research on communication in intimate, enduring relationships. Focus on marital decision making and correlates of relational satisfaction.

225. Seminar: Pragmatics of Human Communication

(4) STAFF

Seminar on the symbol-user relationship. Takes an interactional view of interpersonal communication.

226. Seminar: Gender and Communication

(4) MULAC

Nonverbal and verbal differences and similarities in the communication of males and females. Theoretical perspectives include the gender-linked language effect, speech accommodation theory, and sex-role stereotypes. Acquisition and maintenance of gender-linked differences are discussed.

227. Communication and Social Realities

(4) STAFF

Selected topics addressing the mutually influencing relationship between communication and society.

228. Seminar: Intercultural Communication Theories
(4) GILES

Analysis of theory and research related to intergroup relations, with special attention to the role of language use and variation as a means of communicating about intergroup relations.

229. Intergenerational Communication and Aging
(4) GILES

Theory, research and practice in communication and aging. Focus on intergenerational discourse, age identity and psychological well being.

232. Mass Media and Regulation
(4) KUNKEL

Survey of the fundamental and regulatory policies governing electronic mass media, emphasizing broadcast television. Considers both structural and content-based regulation. Analyzes the policy-making process as well as the outcome of major communication policy decisions.

233. Seminar: Socialization and Mass Communication
(4) STAFF

Theories and research on contribution of mass communication to socialization processes. Focus on developing empirical research in area.

234. Cognition and Mass Communication
(4) GEIGER

Prerequisites: Communication 200, 201A, 214, or permission of instructor.

Review of current research of theories in the cognitive processing of mass media. Special consideration will be given to attention and memory for television.

235. Mass Communication and Culture
(4) STAFF

Theory and research on issues and problems related to mass communication and ethnic/racial groups in the United States.

250. Contemporary Issues in Communication Science
(4) WIEMANN

Prerequisites: Communication 200 and 201A.

Critical examination of a selected aspect of contemporary communication theory and research. Topic varies from year to year.

500. Teaching College Communication
(3) MULAC

Theory of teaching communication at the college level. Topics include the preparation of behavioral objectives and course syllabi, evaluation of performances, construction of tests, and grading practices.

501. Apprentice Teaching
(4) STAFF

Prerequisite: Communication 500 (may be taken concurrently). No unit credit allowed toward advanced degree.

Application of theory to the practices of teaching college courses in communication. Students will issue assignments, conduct class discussions, prepare and deliver lectures, score tests, and assign grades under the supervision of the faculty member who is the course director.

502. Practicum for Teaching Associates
(3-S) STAFF

Prerequisite: Communication 500 or equivalent. No unit credit allowed toward advanced degree.

Theory and practice of teaching undergraduate classes in communication. Topics include the selection of behavioral objectives, selection of texts and other materials, creation of syllabi, preparation of lectures and assignments, administration of examination, and maintenance of standards.

503. Research Practicum
(2-4) STAFF

No unit credit allowed toward advanced degree.

A practicum for research associates.

505. Issues in Communication Research
(1) STAFF

Prerequisites: graduate standing. Enrollment is mandatory each quarter that a student is in residence; units do not fulfill degree requirements.

Presentation of research completed or in progress by students, faculty and guest speakers followed by critical discussion of the issues raised.

594A-Z. Special Topics
(1-4) STAFF

Prerequisite: consent of instructor.

Special seminar on research subjects of current interest.

595A-Z. Group Studies
(4) STAFF

Prerequisite: consent of instructor

Critical review of research in selected fields.

596A-Z. Directed Reading and Research
(2-4) STAFF

Prerequisite: consent of instructor. May be repeated for a maximum of 12 units.

Individual tutorial. A written proposal must be approved by the department chair and filed with the Graduate Division.

597A-Z. Preparation for the Qualifying Examination
(1-4) STAFF

Prerequisite: consent of graduate advisor. No unit credit allowed toward advanced degree.

Directed group or individual preparation for the master's or doctoral qualifying examination.

598A-Z. Master's Thesis Research and Preparation
(1-12) STAFF

Prerequisite: consent of thesis advisor.

The thesis is done under the direction of the chair of a student's thesis committee.

599A-Z. Dissertation Preparation
(1-12) STAFF

Prerequisites: consent of instructor; advancement to candidacy.

This course is reserved for writing the dissertation.

Comparative Literature

Comparative Literature Program,
Division of Humanities and Fine Arts,
Phelps Hall 4206;
Telephone (805) 893-3161
Program Chair: Gerhart Hoffmeister

Advisory Committee

Richard Helgerson, Ph.D. (English)
Paul Z. Hernadi, Ph.D. (English)
Gerhart Hoffmeister, Ph.D. (German)
Sydney Lévy, Ph.D. (French and Italian)
Torborg L. Lundell, Ph.D. (Swedish)
Harvey L. Sharrer, Ph.D. (Spanish and Portuguese)

Comparative literature is the study of literature without specific regard for national or linguistic boundaries. It is comparative in that it deals with the interrelationships between different literatures. The comparatist also deals with the masterpieces, theories, themes, and periods of world literature.

The interdepartmental program in comparative literature offers an under-graduate major leading to the B.A. degree, and graduate programs leading to the M.A. and Ph.D. degrees. The advisory committee represents the Departments of Classics, English, French and Italian, Germanic and Slavic, and Spanish and Portuguese. Students are advised by the chair of the program and by members of the advisory committee within their major departments.

The comparative literature program provides preparation for possible careers as teachers and scholars as well as for positions in federal, state, and local government and in community service. After completing specific prerequisites, students with a bachelor's degree in comparative literature are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—Comparative Literature

Preparation for the major. Students electing English as their literature of primary emphasis complete English 20, 30, 40, Comparative Literature 30A or B or C, and levels 1-6, or the equivalent, in the language of secondary emphasis. Students electing a foreign literature as their primary emphasis complete the normal departmental sequence of elementary and intermediate language courses.

Upper-division major. Forty units of upper-division coursework in two national literatures in their original languages; one of these may be in English. Twenty of these units must be in the student's primary literature, 16 in the secondary literature. Majors must also take Comparative Literature 100, normally in their senior year. Up to 8 units of comparative literature courses may be substituted for required upper-division courses. *Note: No courses in grammar or composition will apply toward fulfillment of upper-division major requirements.*

Graduate Program

In addition to program requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Comparative Literature

Admission

In addition to fulfilling the general requirements for admission to graduate status, the applicant should have an undergraduate major in comparative literature, or the equivalent. Foreign applicants must take the Test of English as a Foreign Language (TOEFL) unless they have completed a bachelor's or master's degree in the U.S. or speak English as a native language. TOEFL exam results are sent directly to the Graduate Division.

Degree Requirements

M.A. students will have as an advisory committee the program chair and two members of the program advisory committee appointed to represent their fields of interest. The M.A. requires 36 units of coursework in two literatures, one of which may be English, in their original languages. Approximately two-thirds of the units should be in the student's primary literature, one-third in the secondary, and more than half the total in graduate courses. All courses must be approved by the student's advisory committee. The candidate must demonstrate a reading knowledge of a foreign language approved by the advisory committee and must pass a qualifying comprehensive examination on the major and minor literatures. The approval for continuation toward the Ph.D. is based on both coursework and the qualifying examination.

Doctor of Philosophy—Comparative Literature

Admission

In addition to fulfilling the general requirements for admission to graduate status, the student must meet the requirements of the comparative literature program. A student entering with an M.A. degree from another university must demonstrate, normally by examination, satisfactory literary background and linguistic resources. Any course deficiencies should be made up during the first quarter of residence. Foreign applicants must take the Test of English as a Foreign Language (TOEFL) unless they have completed a bachelor's or master's degree in the U.S. or speak English as a native language. The student will have an advisory committee composed of faculty members who represent the major and minor languages.

Degree Requirements

The Ph.D. degree in comparative literature requires the study of *either* three literatures, one major and two minors; *or* the study of two literatures plus one other related discipline (e.g., fine arts, philosophy, film studies); *or* the intensive study of two literatures

One of the literatures may be English, the other(s) must be studied in their original languages (e.g., a related discipline such as history in place of a second minor literature should be read in the original language, where applicable). The selection of these options must be approved by the degree committee.

A total of 60 units must be distributed as follows: 20 units in the major literature, 20 units in the minor literature. Both of these literatures must be offered on the graduate level. The remaining 20 units may be devoted to further coursework either in these two literatures or a third literature or any other graduate-level work related to the student's area of specialization. The minors may be limited to the most important authors or works of literature, or to literary influences, topics, genres, or epochs. For instance, English literature as a major may be complemented by German literature as a minor with a focus on romanticism; the remaining 20 units of the second minor could be devoted to romantic philosophy, art, or music. An advanced reading proficiency in a second foreign language is required.

Upon completion of coursework, the student will take three written examinations on the major and minor literatures or related discipline, to be followed by an oral examination administered by a doctoral committee. Students who pass this second qualifying examination (the first one being the M.A. examination) will be advanced to candidacy. They will propose a dissertation topic and research plan in consultation with a member of the student's degree committee. Candidates will be questioned about their dissertation in an oral examination.

Comparative Literature Courses

LOWER DIVISION

30A-B-C. Masterpieces of World Literature
(4-4-4) SHARRER, HOFFMEISTER, LUNDELL
A survey of western literature.

A: Classical and medieval literature from Homer to Dante.

B: Renaissance and neoclassical literature from Petrarch to Diderot.

C: Romantic and modern literature from Rousseau to Solzhenitsyn.

UPPER DIVISION

100. Introduction to Comparative Literature
(4) HOFFMEISTER
Prerequisite: upper-division standing.
Method and practice of comparative study. Introduction to masterpieces, theories, themes, and periods of world literature.

105. The Classical Tradition
(4) SULLIVAN
Prerequisite: upper-division standing.
Studies in the postclassical uses of Greco-Roman literature and mythology. Neoclassicism; myth and literature.

111. The Picaresque Novel
(4) HOFFMEISTER
Prerequisite: upper-division standing.
Theory of the picaresque novel; analysis of European masterpieces; using Spanish, French, and English examples as points of departure, but concentrating on the German branch.

112. Don Quixote Abroad
(4) STAFF
Prerequisites: upper-division standing; grade-point average of 3.0 or better, or consent of instructor. Same course as Spanish 143.
Comparative study of the Quixotic principle applied in literature outside Spain; for example, in Dickens, Flaubert, Dostoevski, Mark Twain, etc.

115. The Bildungsroman
(4) STAFF
Prerequisite: upper-division standing.
A comparative study of the "novel of education" in French, German, and English. Readings from Rousseau, Stendhal, Flaubert, Goethe, Keller, James, and Joyce.

117A-B. Romanticism
(4-4) HOFFMEISTER
Prerequisite: upper-division standing.
Comparative study of the origins and international development of the romantic movement.

118. Faust in European Romanticism
(4) HOFFMEISTER
Prerequisite: upper-division standing.
Interpretation of Goethe's *Faust* and Faust-inspired romantic literature from a comparative viewpoint: discussion of intermediaries, translations, adaptations; creative as well as critical reception: Faust in literature, painting, and music.

120. Arthurian Literature
(4) SHARRER
Prerequisite: upper-division standing.
Studies in the origins, development, and transmission of the legends of King Arthur and the Knights of the Round Table in medieval European literature.

125. Myth and Literature
(4) STAFF
Prerequisite: upper-division standing.
A comparative study of Greek mythology with special reference to theories of myth and their relevance to the study of literature.

127. The Tale (Fantastic Tales)
(4) LUNDELL
Prerequisite: upper-division standing or consent of instructor.
A course dealing with the fantastic tale and the nature of the fantastic from pre-Christian myth to modern science fiction.

131. Surrealism
(4) STAFF
Prerequisite: upper-division standing.
A comparative study of surrealism and its impact on other movements and the arts.

135. Realism
(4) STAFF
A comparative study of realism, including the views of major theoreticians.

150. Contemporary Literary Criticism
(4) STAFF
Prerequisite: upper-division standing.
May be repeated twice for credit.
Studies in modern and postmodern literary theory. In any one quarter, the course will examine two or three basic orientations such as structuralism, semiotics, hermeneutics, deconstruction, or the esthetics of reception.

160. The Bible in Narrative and Art
(4) STAFF
A comparative study of selected biblical narratives as presented in the authorized version and in the artworks of the western tradition.

170. Literary Translation
(4) STAFF
Prerequisite: knowledge of at least one foreign language.
The theory and practice of creative translation; issues include: literal versus literary translation and the relationship between translation, original creation, and literary criticism.

199. Independent Studies
(1-5) STAFF
Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in comparative literature. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.
Independent studies with any faculty member. To permit study of a subject desired by the student but not covered in course offerings.

GRADUATE COURSES

200. Seminar in Comparative Literature
(4) STAFF
Bibliographical and methodological problems of comparative literary study.

205A-B-C. History of Literary Criticism
(4-4-4) STAFF
Criticism from antiquity to the present.

210A. Tragic Drama
(4) HERNADI
Prerequisite: graduate standing.
The theory and practice of tragedy from the Greeks to modern times. Dramatists include Aeschylus, Sophocles, Euripides, Shakespeare, Webster, and Ibsen. Theory includes texts by Aristotle, Hegel, Nietzsche, Girard, Ricoeur, Lukacs, Frye, and others.

594. Special Topics
(1-4) STAFF
A special seminar on research subjects of current interest.

596. Directed Reading and Research
(2-18) STAFF
Minimum of 2 units per quarter. No more than half of units required for M.A. may be taken in 596 series. Letter grade only.
Individual tutorial. A written proposal for each tutorial must be approved by the program chair.

597. Individual Study for M.A. Comprehensive and Ph.D. Examinations
(1-12) STAFF
No unit credit allowed toward advanced degree. Enrollment limited to 24 units per examination (12 units maximum in any one examination quarter). S/U grading only.

For individual study with major professor or chair or director of student's program.

598. Master's Thesis Research and Preparation
(2-12) STAFF
No unit credit allowed toward advanced degree. S/U grading only.

For research and writing of the Master's thesis.

599. Ph.D. Dissertation Research and Preparation
(2-12) STAFF
S/U grading only. Twelve units maximum.

For research and writing of the doctoral dissertation. Instructor should be chair of the student's doctoral committee.

Computer Science

(Letters and Science)

Department of Computer Science,
Engineering I, Room 2106;
Telephone (805) 893-4321

The College of Letters and Science offers a Bachelor of Arts degree in computer science in cooperation with the Department of Computer Science in the College of Engineering. Both the B.A. and B.S. degree programs in computer science are accredited by the Computer Science Accreditation Commission of the Computing Sciences Accreditation Board. Students begin the curriculum by declaring a pre-computer science major.

Students in other majors should note that enrollment in some computer science courses is restricted to declared pre- and full computer science majors. Students who are admitted to UCSB in a different major (or undeclared) and who are planning to enter the pre-computer science program must complete at least 16 units of pre-major coursework at UCSB, including 8 units in computer science, with at least a 3.0 grade-point average for all pre-major courses completed at the University of California. Students who have completed the entire computer science pre-major with at least a 2.75 University of California grade-point average will be admitted to full major standing upon petition whether or not they have been officially declared pre-majors. Petitions for changing to the pre-computer science or computer science majors may be filed any time upon meeting the above requirements.

For additional information concerning the programs in computer science, see the entry of the Department of Computer Science in the College of Engineering, which describes departmental facilities, faculty, advising services, courses offered, career opportunities, and graduate study.

After completing specific prerequisites, students with a bachelor's degree in computer science are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Bachelor of Arts—Computer Science

Preparation for the major. The following courses must be completed with a minimum grade-point average of 2.75 before the student will be admitted to full major status. Courses identified as options are considered equivalent; students may take one of them to satisfy the requirement, but they may not take more of them for credit. Mathematics 3A-B-C or 3AM-BM-CM or 3A-AM-7B-7C; Mathematics 5A-B, Mathematics 8; Computer Science 10, 20, 22, 26, 30 or ECE 15; Probability and Statistics 120A. A science sequence selected from: Chemistry 1A-AL-B-BL-C-CL *or* Physics 1, 2, 3, 3L *or* Physics 6A-AL-B-BL-C-CL. This sequence is excluded from the pre-major grade-point average requirement and need not be completed prior to advancement to the full major.

Upon completion of the preparation for the major with a satisfactory grade-point average, the pre-major student should submit a change of major petition, available in the office of the Department of Computer Science. At that time, the student must declare an intent to pursue either a B.A. degree through the College of Letters and Science or a B.S. degree through the College of Engineering.

Upper-division major. Forty-eight upper-division units, including the following, are required: Computer Science 110A or 110B, 130A-B, 136, 154, 162, 170, 186; Electrical and Computer Engineering 152A; Probability and Statistics 120B. At least 7 units of upper-division major field electives must be completed; prior approval by the student's adviser is required.

Courses required for the major or pre-major, lower- or upper-division, inside or outside of the Department of Computer Science, cannot be taken with the passed/not passed grading option. They must be taken for letter grades.

Dance

Division of Dance,
Division of Humanities and Fine Arts,
Snidecor Hall 2641;
Telephone (805) 893-3241
Director: Frank W. D. Ries

Faculty

John V. Chapman, Ph.D., C.N.A.A., Associate Professor *(dance history, criticism, ballet)*

Alice Condodina, B.A., Temple University, The Juilliard School, Professor *(modern technique, labanotation, production choreography, repertory)*

Valerie Huston, B.F.A., University of Utah, Lecturer *(ballet)*

Delila Moseley, M.A., UC Santa Barbara, Lecturer *(modern technique, jazz, ballet)*

Jerry Pearson, B.S., University of Minnesota, Assistant Professor *(modern technique, choreography)*

Christopher Pilafian, The Juilliard School, Lecturer *(modern technique, improvisation, choreography, repertory)*

Frank W. D. Ries, Ph.D., Indiana University, M.A., Cambridge University, Professor *(history, criticism, musical theatre forms, ballet)*

Rona Sande, M.Ed., College of William and Mary, The Juilliard School, Professor Emerita

Tonia Shimin, Royal Academy, Associate Professor *(modern technique, improvisation, production)*

(In addition to the regular faculty, the Division of Dance appoints professional artists on a quarter-by-quarter basis. Recent guest faculty have been Stephen Koester, Kathryn Posin, Holly Schiffer, Alan Sener, and Ray Leslee.)

The Division of Dance offers two degree programs, the B.A. and the B.F.A. Although the curriculum for both emphasizes performance and choreography, the Bachelor of Fine Arts degree is highly structured and specifically designed for those students who wish to pursue a professional career in dance or gain entrance into an M.F.A. or M.A. program. The Bachelor of Arts option is a broadly based liberal arts degree that allows more time for students to take courses in areas other than dance, preparing them for further study in such dance career areas as therapy, administration, history, or education. Graduates from either of the degree programs can teach in a variety of situations. Department offerings include academic and studio-centered studies.

After completing specific prerequisites, students with a bachelor's degree in dance are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Students who wish to major in dance must pass the department audition. Auditions are held in November and February prior to university admission. Auditions are offered again during fall registration week for those unable to attend the preferred audition dates, as listed above. Admission into the university is no guarantee of admission into dance unless an audition has been passed. Audition details may be obtained by writing directly to the Division of Dance.

As a dance major, a student must take a minimum of eight technique classes per week (modern and ballet). For graduation, the B.A. student must fulfill the minimum proficiency requirement in technique by passing Dance 47F (Intermediate Ballet) and Dance 156C (Advanced Modern). The minimum proficiency requirement for the B.F.A. student is Dance 147C (Advanced Ballet) and Dance 156F (Continuing Advanced Modern). For seniors in the B.A. degree program, an option is available which allows a reduced course load in technique once the minimum proficiency is met.

Each student is assigned a faculty adviser, and new and continuing students are strongly urged to meet with their adviser at least once a year, preferably once each quarter.

Santa Barbara Dance Theatre is a professional dance company in residence at UCSB. The company of six dancers performs locally and statewide, providing an important resource for the department as well as a valuable outreach program to the community.

The Matthew Alan Plaskett Memorial Scholarship is offered biannually to an incoming male who wishes to be a dance major or a double major in dramatic art and dance with an interest in musical theatre. Further information about this scholarship as well as audition material and a brochure describing course offerings, major requirements, and faculty background information is available from the undergraduate adviser.

Senior Honors Project

Candidates who are nominated by the faculty, and who elect to complete their degrees with departmental honors, must submit a proposal for an undergraduate thesis project to be completed during the senior year. The project must represent a significant advanced undertaking in an area of either academic research or creative endeavor and must be approved by a member of the faculty who will serve as project supervisor. The student will receive 4 to 8 units of academic credit in the Dance 193H series. The project will be evaluated by a committee including the supervisor and two additional members of the faculty. Distinction in the Major will be awarded at the time of graduation to those students whose projects are declared acceptable.

Bachelor of Fine Arts—Dance

Preparation for the major. Required: Dance 39, 43, 46A-B-C-D-E-F, 47A-B-C-D-E-F, 50, 51, 52; Dramatic Art 5 or 12; 23D, 25, four units of 29 series or 49; Music 15; Zoology 25 and 25L.

Upper-division major. *Note: Entry into the B.F.A. program is by recommendation of dance faculty for currently enrolled students, and by special audition at the beginning of the junior year for transfer students. Completion of the program depends upon successful progress and recommendation of the dance faculty. Assessment of a B.F.A. student's progress is made on a quarterly basis, and provision is made for students who appear unable to complete the B.F.A. program requirements to graduate with the less specialized B.A. degree providing they maintain the standards for that degree.* Seventy-four upper-division units are required, as follows: Dance 145A-B-C, 147A-B-C, 149 (4 units), 151A-B-C, 151D or E or 189, 154, 156A-B-C-D-E-F, 159, 160, 191, as well as 6 additional units selected from Dance 145M, 145W, 147P, 148, 149, 150, 151D or 151 E (whichever one was not chosen above), 153, 155, 157, 158, 160, 161A-B, 162, 189 (if not chosen above), 190, 193H, 194, 199, Dramatic Art 123, 149.

Bachelor of Arts—Dance

Preparation for the major. Required: Dance 39, 43, 46A-B-C-D-E-F, 47A-B-C-D-E-F, 50, 51, 52; Dramatic Art 23D, 4 units of 29 series or 49; Zoology 25 and 25L or Zoology 40 and 40L.

Upper-division major. *Note: Technical ability and theoretical knowledge must be demonstrated to the satisfaction of the dance faculty before entrance to upper-division study. Students should contact the dance faculty for program planning advice, in order to insure the best possible sequence of study.* Forty upper-division units are required, as follows: Dance 145A-B-C, 149 (1 unit), 151A-B-C, 154, 156A-B-C, as well as three additional units selected from Dance 145M, 145W, 147A-B-C, 147P, 148, 149, 150, 151D-E, 153, 156D-E-F, 157, 158, 159, 160, 161A-B, 162, 189, 190, 193H, 194, 199, and Dramatic Art 149.

Dance Courses

LOWER DIVISION

39. Orientation to Dance
(1-2) STAFF
Selected topics of relevance for the dance professional. Career opportunities, current issues and trends, nutrition, dance injury prevention, bibliography, art agency resources, etc.

40. Summer Ballet
(2) STAFF
Fundamentals of ballet techniques. (SS)

41. Summer Modern Dance
(2) STAFF
Fundamentals of modern dance techniques. (SS)

42A-B-C. Fundamentals of Ballet Technique
(1-1-1) STAFF
Courses must be taken in sequence.
An introduction to the elements of ballet.

43. Rhythmic Form and Analysis
(3) STAFF
The study of music notation (traditional and non-traditional). Clapping, percussion, vocal, and rhythmic patterning exercises. Score reading, how to listen to music, and examination of the elements and forms of music and their relationship to dance.

44A-B-C. Elementary Movement Techniques
(1-1-1) STAFF
Courses must be taken in sequence.
An introduction to the technical aspects of movement as an expressive medium.

45. History and Appreciation of Dance
(4) STAFF
Introduction to dance as an art form. A study of the historical periods of dance in close relationship to the other forms of cultural expression.

45M. History of Musical Comedy Dance
(4) STAFF
An investigation into the origins and development of musical comedy and jazz dance. The precursors in folk dance, vaudeville, and tap will be studied leading to their influence of the important choreographers on Broadway and in the film musical.

46A. Modern Dance
(2-4) STAFF
Prerequisite: audition by dance faculty. May be repeated for credit to a maximum of 8 units by dance, dramatic art, and theatre majors only.
Analysis and exploration of the technical aspects of movement as an expressive medium. Includes special emphasis on the temporal aspects of dance. (F)

46B. Modern Dance
(2-4) STAFF
Prerequisite: Dance 46A or audition by faculty. May be repeated for credit to a maximum of 8 units by dance, dramatic art, and theatre majors only.
Analysis and exploration of the technical aspects of movement as an expressive medium. Includes the study of basic musical forms as they relate to dance, with an emphasis on themes and phrases. (W)

46C. Modern Dance
(2-4) STAFF
Prerequisite: Dance 46B or audition by dance faculty. May be repeated for credit to a maximum of 8 units by dance, dramatic art, and theatre majors only.
Analysis and exploration of the technical aspects of movement as an expressive medium. Includes work in the area of improvisation. (S)

46D-E-F. Intermediate Modern Dance
(2-4, 2-4, 2-4) STAFF
Prerequisite: Dance 46C or audition by dance faculty. Dance 46D-E-F may each be repeated for credit to a maximum of 8 units each by dance, dramatic art, and theatre majors only.
Analysis and exploration of the technical aspects of movement as an expressive medium at the intermediate level. (F,W,S)

47A-B-C. Elementary Ballet
(2-4, 2-4, 2-4) STAFF
Prerequisite: audition by dance faculty. Dance 47A-B-C may each be repeated for credit to a maximum of 8 units each by dance, dramatic art, and theatre majors only.
Analysis and exploration of technical and expressive elements of the ballet. (F,W,S)

47D-E-F. Intermediate Ballet
(2-4, 2-4, 2-4) STAFF
Prerequisite: Dance 47C or audition by dance faculty. Dance 47D-E-F may each be repeated for credit to a maximum of 8 units each by dance, dramatic art, and theatre majors only.
Further analysis and exploration of technical and expressive elements of ballet. (F,W,S)

50. Fundamentals of Choreography
(3) STAFF
Prerequisite: consent of instructor.
A study of the basic elements pertaining to the craft of choreography. Emphasis on exploration of movement variation, breath rhythm, the development of dance phrases, and the use of stage space.

51. Improvisation
(3) STAFF
Prerequisite: Dance 46C or consent of instructor. May be repeated once for credit if taken with a different instructor.
The understanding and development of aesthetic awareness in movement through the use of body tensions and energy.

52. Labanotation
(4) STAFF
Study of the elements of dance notation and interpretation of movement through reading and writing of the dance score.

60. Summer Jazz Dance
(2) STAFF
Fundamentals of the technique of jazz as a theatrical dance form. (SS)

61A-B-C. Introduction to Jazz Dance
(1-1-1) STAFF
Prerequisite: Dance 46C or 47C or by audition; must be taken in sequence. Students who have had Dance 61 will not receive credit for Dance 61A.
Analysis and exploration of the technical and expressive elements of jazz technique.

94. Group Studies for Lower Division Dance Students
(1-4) STAFF
Prerequisite: consent of department; lower-division standing.
Group studies in selected areas of emphasis.

UPPER DIVISION

145A. Studies in Dance History to 1789
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.
The study of dance as a reflection of cultural, social, and political history and its development as a theatrical art form from primitive cultures until the eve of the French Revolution.

145B. Studies in Dance History: Ballet
(4) STAFF
Prerequisite: upper-division standing or consent of in-

structor.

The historical evolution of ballet from the French Revolution to the present day. Topics will include the romantic and Russian ballets, the Age of Diaghilev, and the development of ballet companies in America and Europe.

145C. History and Criticism of Modern Dance

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

The historical development of modern dance in the twentieth century, with emphasis on the United States. Analysis of important critical and interpretive writers on dance with practical application in viewing, reviewing, and criticism.

145M. Studies in Dance History: American Musical Theater

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

A study of the evolution of dance in the American musical theatre from the mid-nineteenth century to the present day. Analysis of dance styles on both stage and screen and its reflection of contemporary culture.

145W. Women in Dance

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Examination of the lives of women dancers from a feminist perspective. The course focuses on modern dance and ballet during the ninteenth and twentieth centuries.

147A-B-C. Advanced Ballet

(2-4, 2-4, 2-4) STAFF

Prerequisite: Dance 47F or audition by faculty. May be repeated for credit to a maximum of 16 units each but only one repetition of each may be counted toward the major.

Advanced analysis and exploration of the technical and expressive elements of ballet. (F,W,S)

147P. Ballet: Pointe

(1-2) STAFF

Prerequisites: consent of instructor; Dance 47C or equivalent.

Basic techniques in classical ballet pointe work, including barre and center practice.

149. Dance Workshop

(1-4) STAFF

Prerequisite: consent of instructor. May be repeated for credit. Will not count as upper-division units for the major when taken by freshmen and sophomores.

Projects in performance, production, choreography, and directing. (F,W,S)

150. Historical Dance Forms

(3) STAFF

Prerequisites: Dance 46C or 47C. Open to dramatic art and theatre majors with consent of instructor.

Analysis of period styles in dance as reflected in theatrical practice from the preclassic through the nineteenth century. Course will include practice in the execution of the particular dance forms studied.

151A-B-C. Choreography

(3-3-3) STAFF

Prerequisites: Dance 50 and 51.

Analysis of the elements of choreographic form: styles and trends with experience in development of dance studies; theory and technique of advanced group choreography. (F,W,S)

151D. Environmental Choreography

(3) STAFF

Prerequisites: Dance 151C and consent of instructor.

A process-oriented study of scoring, designing, and performing dance works in natural landscapes.

151E. Choreography for the Theatre

(3) STAFF

Prerequisites: Dance 151C and consent of instructor.

A study of the choreographic problems encountered in theatrical assignments. Analysis of three major theatrical works in terms of choreographic movement style and design.

154. Music for Dance

(3) STAFF

Prerequisite: Dance 43 or consent of instructor.

Structured music/dance improvisations designed to teach music analysis, use of time, structure, rhythm and music vocabulary. Improvisations utilize all periods of music and art-vernacular-ethnic music.

155. Organization of Dance Production

(3) STAFF

Prerequisite: consent of instructor.

Theory and techniques of organization, direction, and production of the public dance performance.

156A-B-C. Advanced Modern Dance

(2-4, 2-4, 2-4) STAFF

Prerequisites: Dance 46F or equivalent; audition by dance faculty. Dance 156A-B-C may each be repeated for credit to a maximum of 8 units each by dance, dramatic art, and theatre majors only.

Advanced analysis and exploration of the technical aspects of dance as an expressive medium. (F,W,S)

156D-E-F. Continuing Modern Dance

(2-4, 2-4, 2-4) STAFF

Prerequisites: Dance 156C or equivalent; consent of instructor. May be repeated for credit to a maximum of 8 units each but only one repetition of each may count toward the major.

Further analysis and exploration of the technical aspects of dance as an expressive medium. (F,W,S)

157. Criticism and Analysis

(3) STAFF

Prerequisite: consent of instructor.

Advanced analysis of choreographic works with practical application in viewing, reviewing, and criticism.

158. Dance Theory and Pedagogy

(3) STAFF

Prerequisites: Dance 46F and 151A.

The study of the theoretical aspects of dance movement including an analysis of movement concepts, skills, and teaching principles. Includes practical experience in leading group movement sequences.

159. Musical Resources for Dance

(2) STAFF

Prerequisite: Dance 154.

An analysis of music as it relates to choreography. Emphasis on analysis of period styles, music, and dance. Discussion of use of precomposed music for dance, the working process, composer and choreographer, and analysis of dance phrasing, rhythm, and dynamics.

160. Dance Repertory

(2) STAFF

Prerequisite: Dance 156A or consent of instructor. May be repeated for up to 12 units of credit.

The study and performance of major choreographic works.

161A. Jazz Dance

(2) STAFF

Prerequisite: Dance 46F or 47F or by audition.

Jazz as a style and technique. Fundamentals of jazz as an art form for advanced dancers.

161B. Musical Comedy Dance

(2) STAFF

Prerequisite: Dance 46F or 47F or by audition.

Dance sequences from musicals, utilizing theatrical dance styles from the 1920s to the present.

162. Aesthetics of Dance

(4) STAFF

Prerequisite: Dance 157.

A critical analysis of aesthetic concepts related to dance.

189. Elements of Performing

(1-3) STAFF

Prerequisites: Bachelor of Fine Arts degree candidate with consent of instructor; Bachelor of Arts candidate may be enrolled with departmental approval. May be repeated for credit up to 6 units.

The study of stage technique for the development of alert, responsive, and dynamic performers. Individual coaching in the elements of performing such as projection, timing, and pre-performance preparation.

190. UCSB Dance Company

(2-4) STAFF

Prerequisite: consent of instructor. May be repeated to a maximum of 12 units credit, but no more than 8 units may count toward the major.

Selected students will work as dancers in the UCSB Dance Company, studying and analyzing choreography and performance. The company will perform locally and/or on tour. Students will experience the intergral workings of a company.

191. Senior Project

(3) STAFF

Prerequisites: B.F.A. candidate, departmental approval, Dance 151A-B-C.

Choreographic or performance project produced as the culminating presentation for the B.F.A. degree. Course includes detailed documentation of the procedure followed during the creation of the final project.

193H. Senior Honors Project

(4) STAFF

Prerequisites: senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. This course is for students who will complete their projects in one quarter. A final grade will be assigned upon completion.

Advanced thesis project in either academic research or creative activity, supervised by a faculty advisor. Students successfully completing the project, as evaluated by a three-person committee, will graduate with Distinction in the Major. (F,W,S)

193HA. Senior Honors Project

(2-4) STAFF

Prerequisites: senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. Four to 8 units required in honors sequence; minimum of 2 units per quarter. This course is the first in the sequence for students who will complete their projects in either two or three quarters. An "In Progress" grade will be assigned; students may then enroll in either Dance 193HB or 193HC.

Advanced thesis project in either academic research or creative activity, supervised by a faculty advisor. Students successfully completing the project, as evaluated by a three-person committee, will graduate with Distinction in the Major.

193HB. Senior Honors Project

(2-4) STAFF

Prerequisites: Dance 193HA; senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. Four to 8 units required in the honors sequence; a minimum of 2 units per quarter. This course is the second in the sequence for students who will complete their projects in three quarters. An "In Progress" grade will be assigned; students will then enroll in Dance 193HC.

Advanced thesis project in either academic research or creative activity, supervised by a faculty advisor. Students successfully completing the project, as evaluated by a three-person committee, will graduate with Distinction in the Major.

193HC. Senior Honors Project

(2-4) STAFF

Prerequisites: Dance 193HA or 193HB; senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. Four to 8 units required in honors sequence; minimum of 2 units per quarter. This course is the final in the two or three quarter sequence. A final grade will be assigned upon completion.

Advanced thesis project in either academic research or creative activity, supervised by a faculty advisor. Students successfully completing the project, as evaluated by a three-person committee, will graduate with Distinction in the Major.

194. Group Studies in Dance

(1-4) STAFF

Prerequisites: consent of instructor and department. May be repeated for credit to a maximum of 8 units.

Group projects in selected areas of emphasis.

199. Independent Study in Dance

(1-5) STAFF

Prerequisites: students must 1) have attained upper-

division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in dance. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Projects in choreography or dance research. (F,W,S)

Dramatic Art

Department of Dramatic Art,
Division of Humanities and Fine Arts,
Snidecor Hall 2641;
Telephone (805) 893-3241
Department Chair: Robert G. Egan

Faculty

Barbara Bosch, Ph.D., UC Berkeley, Assistant Professor *(acting, directing)*

James Donlon, B.A., Humboldt State University, Lecturer *(movement)*

Robert G. Egan, Ph.D., Stanford University, Professor *(dramatic literature, criticism)*

Stanley L. Glenn, Ph.D., Stanford University, Professor Emeritus

Theodore W. Hatlen, Ph.D., Stanford University, Professor Emeritus

Jay Jagim, M.F.A., University of Connecticut, Lecturer *(scenic design)*

W. Davies King, D.F.A., Yale School of Drama, Assistant Professor *(American drama and theatre history)*

Peter Lackner, Ph.D., Institute for Theatre Studies, Freie Universität, Berlin, Associate Professor *(directing, acting)*

Peter Mark, M.S., The Juilliard School, Professor *(music theater)*

Michael Morgan, B.F.A., New York University School of Arts, Lecturer *(voice)*

Judith Olauson, Ph.D., University of Utah, Lecturer with Security of Employment *(acting, directing)*

Robert Potter, Ph.D., Claremont Graduate School, Professor *(playwriting, dramatic literature)*

Dunya Ramicova-Berkovics, M.F.A., Yale School of Drama, Professor *(costume design and history)*

William R. Reardon, Ph.D., Stanford University, Professor Emeritus

Bert States, D.F.A., Yale University, Professor *(dramatic literature, theory)*

Leland K. Strasburg, M.F.A., University of Utah, Senior Lecturer with Security of Employment *(scenic and lighting design)*

Thomas Whitaker, M.F.A., Carnegie Mellon University, Assistant Professor *(acting, directing)*

Simon Williams, Ph.D., University of East Anglia, Professor *(European theatre history, dramatic literature)*

Lucille H. Woolsey, Ph.D., Purdue University, Professor Emerita

The Department of Dramatic Art offers two undergraduate and two graduate degrees: a Bachelor of Fine Arts in theatre, a Bachelor of Arts in dramatic art, a Master of Arts in dramatic art, and a Doctor of Philosophy in dramatic art. The Bachelor of Fine Arts degree is designed to prepare professionally oriented students for a career in theatre. The Bachelor of Arts is a more broadly based degree, with a liberal arts orientation, which allows students wider curricular choices. Both degrees provide a strong background in theatre arts and dramatic literature. The M.A. program is designed to afford a strong foundation for work in educational or professional theatre or for further graduate study. The Ph.D. is an intensive program concentrating in literary, critical, and historical research, designed to prepare students for careers in university teaching.

Undergraduate Program

Students in the Bachelor of Fine Arts program will complete an emphasis in acting. Students in the Bachelor of Arts program may concentrate in or select a combination from several areas which are described below.

The major provides ample opportunities for participation in play production and workshop activities in three campus theatres. Auditions for departmental productions will usually be held in the first week of each quarter. Audition material and information are available in the dramatic art production office at the end of each quarter.

Initial counseling for undergraduates is given in the department office by the undergraduate adviser, who will assign each student a faculty adviser; additional counseling is provided by the undergraduate adviser and faculty adviser in concert. Registration for many dramatic art courses requires department approval.

To complete any undergraduate program in the Department of Dramatic Art, the following core courses are required:

Preparation for the major. Dramatic Art 5, 20 (fall quarter of freshman year), 29A-B-C-D, 49*, 61 (winter quarter freshman year).

Upper-division major. Dramatic Art 149*, 160A (spring quarter sophomore year), 160E, 162 or English 117A or B, at least two courses from the following: Dramatic Art 106, 155A-B, 156, 160B-C-D-F, 161A-B, 164, and 165.

** A minimum of 4 units from the 49/149 series is required. (A maximum of 25 units of the 49/149 series will be accepted for graduation.)*

Honors Program

Candidates who are nominated by the faculty and who elect to complete their degrees with departmental honors must submit a proposal for an undergraduate thesis project to be completed during the senior year. The thesis must represent a significant advanced undertaking in an area of either academic research or creative endeavor. The student will receive 4 to 8 units of academic credit in the Dramatic Art 193H series. The project must be approved by a member of the faculty who will work closely with the student as project supervisor, and be evaluated by a committee including the supervisor and two additional members of the faculty. Distinction in the Major will be awarded at the time of graduation to those students whose projects are declared acceptable.

Bachelor of Fine Arts—Theatre—Acting Emphasis

The acting emphasis is highly selective and is geared toward preparation for entry into professional conservatory programs, M.F.A. programs, or professional theatres. A more comprehensive description of the philosophy and policies of the B.F.A. acting emphasis is available from the department. Auditions are required for entrance to Dramatic Art 15A. The B.F.A. in acting may be declared only upon completion of 15A and with the recommendation of the instructor. Passage to Dramatic Art 15B and 15C is determined by the acting faculty, using such criteria as clear demonstration of potential talent and professional commitment to the field. Only students who have declared the B.F.A. in acting will be permitted to take Dramatic Art 15B. Passage to advanced acting (Dramatic Art 151A) uses similar criteria, but more stringent judgment is applied. Transfer students who wish admission into the acting program should request information from the department.

To complete the program for the B.F.A. in acting, the following courses are required, in addition to the core courses. Lower-division: Dramatic Art 10A-B-C (must be taken concurrently with 15A-B-C), 11A-B-C (concurrently with 15A-B-C), 15A-B-C, 26, Dance 44A-B or 44B-C, Physical Activities 1-18D or 1-13A. Upper-division: a total of 68 upper-division dramatic art units is required inclusive of core and emphasis courses: Dramatic Art 110A-B-C (concurrently with 151A-B-C), 110D, 111A-B-C (concurrently with 151A-B-C), 112, 149 (6 additional units beyond the core requirements), 151A-B-C-D-F, and additional upper-division dramatic art courses to bring the unit total to 68. Students may not enter the 151 series until they have completed 20, 26, 29A-B-C-D, 61, and 160A.

Bachelor of Arts—Dramatic Art

The aim of the department is to provide a comprehensive undergraduate education in dramatic art based on a foundation of core requirements, including practical experience in the theatre arts (acting, theatre technology, and production) and coursework in dramatic theory and literature. An undergraduate major in dramatic art may lead to specialized creative work in the profession, to graduate work in preparation for teaching and research, or to careers in law, arts administration, or business, either within or outside the arts and entertainment industry.

For the B.A. in dramatic art, students must complete, inclusive of core requirements, a minimum of 36 upper-division units in dramatic art. In selecting these courses, students may focus on any one area or on a combination of the areas outlined below. After an initial interview with the departmental undergraduate adviser, students should plan their coursework in consultation with a faculty adviser.

Directing

The directing concentration is the most structured and specialized area of study within the B.A. program, and is intended to provide serious experience of the director's function in today's theatre. It offers a sound preparation for an M.F.A. in directing, leading toward a professional career in the field, which may include directing on various educational levels, including secondary school and college, as well as community theatre.

The directing concentration requires Dramatic Art 15A, 22, 23, and 25A, in addition to B.A. core requirements. Before enrolling in Dramatic Art 153A, the student must have completed all lower-division requirements, including 29A-B-C-D. (Transfer students who enroll at the junior level may, at the discretion of the department, make up some of these prerequisites while they take the 153 series.) Required upper-division courses are: 153A-B-C (must be taken during the junior year); 153D (a senior project in directing); 154; 8 units from the following: 26, 104A-B-C, 106, 126, 133, 161A-B. Students pursuing the directing emphasis are required to serve as assistant stage manager on a major production, or as stage manager on a student-directed production. Credit will be given for 29D, 49, or 149. Afterwards, students in the directing emphasis must serve as stage manager for a major production, for which Dramatic Art 190 credit will be offered. Directing students are advised to elect Art History 1 and Music 15 to satisfy General Education requirements in the fine arts area.

Dramatic Literature, Theory, and Theatre History

A distinctive feature of the UCSB Department of Dramatic Art is its wide range of offerings in dramatic literature, theory, and theatre history (see course descriptions of Dramatic Art 106, 155A-B, 156, 160A-B-C-D-E-F, 161A-B, 162, and 164.) These courses may be supplemented with dramatic literature courses, in the original languages and in translation, in numerous humanities departments at UCSB.

Playwriting

The playwriting program is based on a year-long course, Dramatic Art 104A-B-C, and includes public reading, visiting lecturers, the yearly Original Scripts Workshop, and periodic departmental productions of original scripts. Enrollment in Dramatic Art 104A is open to all students without prerequisites; continuation in 104B-C requires permission of the instructor. The latter courses may be repeated for credit, and further work in this area might include additional courses in dramatic literature, creative writing, and theatre arts, and perhaps an internship as dramaturge on a departmental production. Coursework in screenwriting is available through the Film Studies Program.

Theatre Design and Technology

The theatre design and technology program is a specialization for students who want intensive and practical training in theatre production. Objectives include preparation for work in professional, regional, and academic theatre or for entry into an M.F.A. program. Students who wish to enter the program should schedule an interview with a faculty designer where they will discuss requirements and outline an individualized course of study.

In addition to core courses, students in this program will select beginning and advanced courses in scenic, lighting, and costume design and construction along with related electives in costume history, advanced stage crafts, scene painting, and theatre history.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Dramatic Art

The M.A. program is designed to afford a strong foundation for work in educational or professional theatre or for further graduate study.

Degree Requirements

Forty-eight units are required for the M.A. degree; at least 28 of these must be taken in graduate courses numbered 200 and above. Eight of these units involve a master's thesis project. Furthermore, 8 must be from the 260-263 sequence, with at least 4 units from 260. At the completion of class work, a two-hour oral examination is required.

Required coursework. Dramatic Art 200; Dramatic Art 501 (8 units); five courses (with at least 8 units above 200) from 106, 155A-B, 156, 160A-F, 161A-B, 162, 164, 210, 211, 212, 220, 221, 222, 230, 231, 240, 241, 242, 243, 244, 245, 246, 247, 250, 251; 16 units from 104A-C, 121, 122, 123, 124, 125A, 125B, 126, 129, 131, 133, 134, 141, 149, 151A-D, 151G, 152, 153A-D, 154, 170, 191, 192, 194, 260, 261, 262, 263 (at least 8 units must be from the 260, 261, 262, 263 sequence, with at least 4 units from 260). A higher standard of work than is normally expected of undergraduate students will be required of graduate students taking upper-division undergraduate courses.

Only students who have clearly revealed their scholarly and creative ability will be permitted to take doctoral work; the faculty will make this decision at the conclusion of the M.A. program.

Playwriting Program. With the approval of the program director, graduate students may undertake a playwriting project in partial fulfillment of M.A. degree requirements. Interested M.A. applicants should submit a sample of their work to the playwriting program director.

Doctor of Philosophy—Dramatic Art

The Ph.D. program, an intensive program concentrating on literary, critical, and historical research, is designed to prepare students for careers in university teaching.

Admission

General requirements for admission to graduate status must be fulfilled. Candidates must hold an M.A. degree from UC Santa Barbara or another institution.

Degree Requirements

A heavy sequence of courses in dramatic literature, theatre history, theory, and criticism is taken over a period of two years. All doctoral students are expected to take two seminars a quarter, or the equivalent, in departmental seminars and lectures, or in cognate offerings in other departments. In lieu of a course in research and methodology, all doctoral students must complete exercises in the techniques of research that will be set as part of the regular seminars in which they participate. All doctoral students must participate in the Graduate Colloquia, Dramatic Arts 200, 201, 202, throughout their time in the department. A waiver of this requirement can only be provided by the graduate adviser. At the start of the third year, the candidate must pass written examinations in dramatic literature, theatre history and practice, and theory and criticism, as well as an oral examination. Upon successful completion of these examinations, the student will be recommended for advancement to candidacy.

Prior to taking the comprehensive examination, the candidate must complete the language requirement. There are three options: (1) completion of a foreign language course or courses, with a grade of B+ or better, the specific courses to be determined by the student in consultation with the graduate adviser; (2) demonstrated reading knowledge of one foreign language with the use of a dictionary; and (3) for those writing a dissertation in a non-English subject, demonstrated oral and written proficiency in the relevant foreign language or languages.

The third and fourth years will be spent researching and writing the dissertation. Approximately 36 units in the third year will be devoted to dissertation work. Students whose dissertations are not completed by the end of the fourth year will be subject to review by the graduate faculty of the department.

Doctoral students in dramatic art are required to serve as teaching assistants for six quarters.

Dramatic Art Courses

LOWER DIVISION

5. Introduction to Acting
(3) STAFF

Introduction for majors and nonmajors to the multiple problems of the actor's art and craft. (F,W,S)

6S. Acting Workshop
(2-4) STAFF

Prerequisite: consent of instructor.

Laboratory for voice, movement, and acting. (SS; offered periodically.)

10A-B-C. Movement for the Stage
(2-2-2) DONLON

Prerequisites: completion of Dramatic Art 5; concurrent enrollment in Dramatic Art 15A-B-C. Dramatic Art 10A-B-C may each be repeated once for credit with recommendation of instructor.

Intense physical training designed to produce a neutral, dynamic, and expressive bodily instrument. (F,W,S)

11A-B-C. Voice Laboratory
(2-2-2) STAFF

Prerequisites: completion of Dramatic Art 5; concurrent enrollment in Dramatic Art 15A-B-C. Dramatic Art 11A-B-C may each be repeated once for credit with recommendation of instructor.

A fundamental approach to voice for the actor with emphasis on vocal production, articulation, and quality; plus physical relaxation techniques. (F,W,S)

12. Fundamentals of Mime
(3) DONLON

A basic introductory study of movement theatre involving exercises and projects in classical mime. Includes some work in mask and clowning technique.

13. Musical Theatre Workshop
(2) OLAUSON
Prerequisite: consent of instructor based on informal audition.

Singing, movement, and dance through the medium of music theatre, culminating in a showcase performance.

14. Acting Workshop
(3) STAFF
Prerequisites: Dramatic Art 5. Course restricted to sophomores and above. Designed for nonspecialists in drama. May be repeated once for credit.

Exploration, performances, and criticism of scenes from a broad range of dramatic scripts with the stress upon the actor's perspective. Practical skills will be taught to make the physical exploration of the text a valid exercise.

15A. Fundamentals of Acting
(4) STAFF
Prerequisites: Dramatic Art 5; recommendation by audition. Student must take Dramatic Art 10A and 11A in conjunction with this course. May be repeated once for credit by recommendation of instructor.

Improvisation and foundation work in approach to text to develop the beginning actor's technique and creative capacity. (F)

15B. Fundamentals of Acting
(4) STAFF
Prerequisites: Dramatic Art 15A and consent of instructor. Student must take Dramatic Art 10B and 11B in conjunction with this course. May be repeated once for credit by recommendation of instructor.

Problems in scene analysis, characterization, and presentation. (W)

15C. Fundamentals of Acting
(4) STAFF
Prerequisites: Dramatic Art 15B and consent of instructor. Student must take Dramatic Art 10C and 11C in conjunction with this course. May be repeated once for credit by recommendation of instructor.

Further development of characterization, interpretation, and techniques of emotional focus in acting. (S)

19. Stage Design: Fundamentals
(4) JAGIM
Prerequisite: Dramatic Art 20 or consent of instructor.

Lectures, demonstrations, and projects to give the non-specialist and beginning specialist an understanding of the stage design process. Study of the elements, principles, terminology, and basic techniques. Exploration of the communicative and collaborative process. Concentration in scenic and lighting practice.

20. Orientation to Theatre Production
(4) STRASBURG

Survey of departmental production program, procedures and techniques. Includes overview of theatre production organization, discussions about architectural spaces, producers, directors, designers, and the numerous other craft people in the theatre.

20S. Survey of Technical Theatre
(3) STRASBURG

Survey of scenographic techniques including technical production, set, and costume design. (SS; offered periodically)

21. Stagecrafts
(4) STAFF
Prerequisite: students who have completed Dramatic Arts 21A or Dramatic Arts 21B will receive only 2 units of credit.

Basic tools of the wood and electrical shops and their application to theatrical scenery construction and lighting. Includes some painting, equipment maintenance and construction as laboratory exercise.

22. Scenic Design
(4) JAGIM
Prerequisite: Dramatic Art 19, 20, or consent of instructor.

Projects in the interpretation of plays through scenic elements with concentration on the design process and the dramatic use of space. Drafting projects including floor plans, elevations and basic perspective drawing.

23. Stage Lighting Design
(4) STRASBURG
Prerequisite: Dramatic Art 19, 20, or consent of instructor.

Lecture-demonstration in instrumentation, color in light, control equipment and basic lighting theories. Technical drawing including light plots, scheduling and organization for lighting design. Some practical application through laboratory and studio exercise.

23D. Dance Lighting Design
(4) STAFF
Prerequisite: dance major or consent of instructor.

Lecture-demonstration in instrumentation, color in light, control equipment, and basic lighting theories. Practical application through laboratory assignments and studio productions.

25A. Costume Design
(2) RAMICOVA-BERKOVICS
Prerequisite: not open for credit to students who have completed Dramatic Arts 25.

Exploration of basic elements and principles of theatre costume design.

25B. Theatre Graphics: Figure
(2) RAMICOVA-BERKOVICS
Prerequisites: not open for credit to students who have completed Dramatic Arts 27C.

Drawing for theatre. Emphasis on the figure for the costume designer.

26. Stage Makeup
(2) STAFF
Prerequisites: priority to dramatic art and theatre majors.

The theory, history, and practical application of stage makeup including character, age, period, and special effects techniques.

28. Computing for Theatre Arts
(4) STRASBURG

Basic training with Macintosh II, Microsoft Works, MacDraft, and Basic CAD. Introduction to word processing, spread sheet applications, data base usage, simple poster and chart making, floor plan and light plot graphics.

29A. Scenic Practicum
(1-3) STAFF
May be repeated for up to 3 units of credit.

Empirical understanding of methods of assembly and materials for stage scenery. Shop organization and operation are experienced during the construction process.

29B. Lighting Practicum
(1-3) STAFF
May be repeated for up to 3 units of credit.

Empirical understanding of optical properties of lighting units, available hanging positions and apparatus, lighting control, electrical safety and stage crew organization.

29C. Costume Practicum
(1-3) STAFF
May be repeated for up to 3 units of credit.

Empirical understanding of methods of assembly and materials for stage dress. Costume shop organization and operation are experienced during the construction process.

29D. Run Crew Practicum
(1-3) STAFF
May be repeated for up to 3 units of credit.

Empirical understanding of backstage organization and operation during live performance.

31. Costume Construction
(2) STAFF
Prerequisite: not open to students who have completed Dramatic Arts 21C.

Basic costume techniques including production organization, equipment, materials, fabric recognition, and theatrical costume construction.

49. Theatre Workshop
(1-6) STAFF
A maximum of 25 units of Dramatic Art 49 and 149 combined may be accepted for credit.

Projects in costume, scenery, lighting, acting, directing.

60. Appreciation of Theatre
(4) STAFF
Prerequisite: for the nonmajor.

This introductory course in playgoing surveys the general nature of dramatic presentation, including elements of dramatic structure, types of drama, the contributions of the actor, director, designer, technician, and audience. Films, videotapes, and live performances will be studied whenever possible. (F,W,S)

60S. Appreciation of Theatre
(3) STAFF
Prerequisite: for the nonmajor.

This introductory course in playgoing surveys the general nature of dramatic presentation, including elements of dramatic structure, types of drama, the contributions of the actor, director, designer, technician, and audience. Films, videotapes, and live performances will be studied whenever possible. (SS; offered periodically.)

61. Dramatic Structure
(3) STATES

The principles of dramatic form and structure as examined in a range of representative plays from ancient to modern times. (W)

94. Group Studies for Lower-Division Students
(1-4) STAFF
Prerequisites: consent of department chair and open to freshmen and sophomores only.

Special opportunities for study, research, and project preparation.

UPPER DIVISION

104A. Playwriting: An Introductory Course
(4) POTTER

Exploration of ideas for the stage. Experiments with mime, monologue, dialogue, scene. Characters and action. Resources of the stage, principles of economy. Analysis of scripts on paper and in production. A series of written assignments and a final project (scenes from work in progress). (F)

104B. Advanced Playwriting
(4) POTTER
Prerequisites: completion of Dramatic Art 104A (or submission of written material) and consent of instructor. May be repeated for up to 8 units of credit.

Development of selected student projects into completed working scripts; further studies in script analysis. Writing and rewriting. (W)

104C. Script Workshop
(1-4) POTTER
May be repeated for up to 8 units of credit.

A. Original scripts workshop; rehearsal and production of selected student scripts, in collaboration with student director, actors, etc. B. Staged reading series: development of scripts for public staged readings. (S)

106. Dramatic Theory and Criticism
(4) EGAN, KING
Prerequisite: upper-division standing.

Intensive discussion of several major theories of the drama and an application of those theories to selected plays.

110A-B-C. Advanced Movement for the Stage
(2-2-2) DONLON
Prerequisites: completion of Dramatic Art 15A-B-C; concurrent enrollment in Dramatic Art 151A-B-C. Dramatic Art 110A-B-C may each be repeated once for credit by recommendation of instructor.

A continuation of the Dramatic Art 10 series with increased focus on period movement, tumbling, clowning, and physical characterization.

110D. Senior Movement Projects
(3) DONLON
Prerequisites: senior standing and completion of Dramatic Art 110A-B-C.

Creative projects utilizing skills learned in prior movement classes.

111A-B-C. Advanced Voice Laboratory
(2-2-2) STAFF
Prerequisites: completion of Dramatic Art 15A-B-C; concurrent enrollment in Dramatic Art 151A-B-C. Dramatic Art 111A-B-C may each be repeated once for credit by recommendation of instructor.

Advanced problems in voice for the actor with continued emphasis on craft, plus the creative and expressive uses of the voice with the body.

111D. Dialects for the Stage
(3) STAFF
Prerequisites: dramatic art or theatre major; consent of instructor.

A comprehensive study of the dialects that are often necessary for students pursuing a professional career in theatre. Music, dance, video, and audio tapes, guest speakers and phonetics are used to analyze and physicalize a minimum of seven different dialects.

112. Senior Voice Laboratory
(2) STAFF
Prerequisites: completion of Dramatic Art 111C; concurrent enrollment in Dramatic Art 151D. May be repeated once for credit.

Seminar in advanced voice work for senior students in B.F.A. acting program. Concentration upon the application of vocal techniques to particular characterizations.

113S. Musical Comedy Performance Workshop
(4-12) STAFF
Prerequisites: Dramatic Art 5 or equivalent and consent of instructor.

Exploration of the performance aspects of the musical comedy genre culminating in showcase performances. Integrated curriculum includes voice techniques, physical warm-up, musical theatre staging and movement, and basic choreography. (SS; offered irregularly.)

121. Advanced Technical Theatre Production
(4) STRASBURG
Prerequisite: consent of instructor.

Advanced problems in planning, drafting, construction, mounting, and rigging of stage scenery.

122. Advanced Scenic Design
(4) JAGIM
Prerequisite: consent of instructor. Students who have completed Dramatic Arts 127A or 122 prior to Fall 1991 may earn a maximum of 2 units credit.

Concentration on various set design problems including period and style. Includes drawing, drafting of plans and elevations and rendering techniques.

123. Advanced Stage Lighting Design
(4) STRASBURG
Prerequisite: consent of instructor. Students who have completed Dramatic Arts 127B or 123 prior to Fall 1991 may earn a maximum of 2 units credit.

Lecture-demonstration of controllable properties and functions of light. Includes technical drawing: light plots, scheduling and organization for lighting design, drawing using light and shadow, perspective drawing. Practical application through studio exercise.

124. Costume Design Portfolio
(4) RAMICOVA-BERKOVICS
Prerequisite: senior standing and consent of instructor.

Exploration of advanced costume design projects with concentration on individual portfolios.

125A. Advanced Costume Design
(2) RAMICOVA-BERKOVICS
Prerequisite: Dramatic Art 25 or consent of instructor. Not open for credit to students who have completed Dramatic Arts 125.

Execution of theoretical costume design projects for classical as well as contemporary drama, dance, and opera.

125B. Advanced Theatre Graphics: Figure
(2) RAMICOVA-BERKOVICS
Prerequisite: Dramatic Art 25A or consent of instructor. Not open for credit to students who have completed Dramatic Art 127C.

Advanced problems in the drawing of the figure for costume designers.

126. Advanced Makeup
(2) STAFF
Prerequisite: Dramatic Art 26 or equivalent.

Emphasis on character makeup and new prosthetics construction and application techniques.

129. Painting for the Stage
(2) JAGIM
Prerequisite: consent of instructor.

Advanced work in scenic painting including special textures, foliage, trompe-l'oeil effects as used for stage.

131. Advanced Costume Construction
(2) RAMICOVA-BERKOVICS
Prerequisites: Dramatic Art 31 and 29C; or consent of instructor.

Exploration of advanced draping, drafting, and tailoring techniques through production related projects.

133. History of Costume
(4) RAMICOVA-BERKOVICS

A survey of the development of western clothing and costume from the Egyptians to the present as related to the changing patterns of culture. Short survey of non-Western clothing and costume.

134. Advanced Theatrical Crafts
(2) STAFF
Prerequisites: Dramatic Art 21.

Concentration on special materials and techniques utilized in theatrical productions including decorative and three-dimensional art.

141. Reader's Theatre
(4) STAFF

Study of the different concepts of reader's theatre and practical experience in the preparation and performance of dramas, dramatic poetry, and novels in the reader's theatre style.

149. Theatre Workshop
(1-6) STAFF
Prerequisite: upper-division standing. A maximum of 25 units of Dramatic Art 49 and 149 combined may be accepted for credit.

Projects in costume, scenery, lighting, acting, directing.

151A-B-C. Advanced Acting
(4-4-4) STAFF
Prerequisites: Dramatic Art 61; recommendation from Dramatic Art 15C and consent of instructor. By audition for transfer students. Students must take Dramatic Art 110A-B-C and 111A-B-C in conjunction with this course. May be repeated once for credit by recommendation of instructor.

Scene work and exercises exploring various acting styles which may include Greek, Artaud, Shakespeare, period comedy and farce, and Absurd.

151D. Advanced Acting: Modern Trends
(4) STAFF
Prerequisites: Dramatic Art 151C and consent of instructor.

Study and performance of contemporary acting developments.

151E. Acting for the Camera
(4) STAFF
Prerequisites: Dramatic Art 151C or equivalent; consent of instructor. May be repeated once for credit.

Course explores advanced problems of characterization in naturalistic theatre. It is geared as far as possible to individual actor's needs, and focuses upon technical demands of acting for the camera in both television and film situations. Course includes in-studio filming of scenes.

151F. Senior Auditions
(3) STAFF
Prerequisites: Dramatic Art 151C and consent of instructor. May be repeated once for credit.

Preparation and study of material and techniques for professional and graduate school audition.

151G. Alternate Acting Styles
(4) STAFF
Prerequisite: senior standing in the B.F.A.-Acting emphasis.

A return to realism and continued work on various styles.

151S. Senior One-Person Shows
(3) STAFF
Prerequisites: Dramatic Art 151C and consent of instructor.

Individually researched performance projects.

152. Introduction to Stage Directing
(4) STAFF

Basic principles and practice of directing. Lectures, demonstrations, and projects to give the nonspecialist a general idea of the directorial process.

153A. Stage Directing
(5) STAFF
Prerequisites: Dramatic Art 15A, 22, 23, 61, and consent of instructor. Limited enrollment.

Lectures and demonstrations on basic theoretical principles. Tutorial instruction in textual study and formal analysis leading to major promptbook projects.

153B. Techniques of Directing
(4) STAFF
Prerequisites: Dramatic Art 153A and consent of instructor.

Laboratory in directorial scene work.

153C. Directorial Production
(4) STAFF
Prerequisites: Dramatic Art 153A-B and consent of instructor.

Full directorial responsibility for the mounting of a one-act play.

153D. Projects in Directing
(1-6) STAFF
Prerequisites: Dramatic Art 153C and consent of instructor. May be repeated for credit.

Special projects for the advanced director.

153E. Senior Projects
(1-6) STAFF
Prerequisites: senior standing and consent of instructor. May be repeated for up to 6 units of credit.

Special projects to each area of concentration.

154. Opera Directing
(4) MARK
Prerequisite: advanced directing students at the undergraduate and graduate level.

Examination of the director's role in operatic and music theatre production.

155A. American Drama to 1940
(4) KING
Prerequisite: open for 2 units of credit it student has completed Dramatic Arts 155.

History of the American drama and theatre from early years to 1940. Important plays, performers, institutions, and styles of production will be given selective attention.

155B. American Drama 1940 to Present
(4) KING
Prerequisite: open for 2 units of credit if student has completed Dramatic Arts 155.

History of the American drama and theatre from 1940 to the present. Important plays, performers, institutions, and styles of production will be given selective attention.

156. American Women Playwrights
(4) OLAUSON
Prerequisite: upper-division standing or Dramatic Art 61.

A study of dramatic literature written by American women. Emphasis placed upon the evolution of women's playwriting from 1930s to the present time.

160A. Development of Dramatic Art
(4) KING, WILLIAMS

A study of the drama as a manifestation of cultural development, in terms of dramatic structure, the evolving physical theatre and artistic styles, and critical theory from its origin in the western world through the Greeks to the Roman Empire. (S)

160B. Development of Dramatic Art
(4) POTTER

Theatre and drama from the medieval cathedrals to the Jacobean playhouse, including popular drama, Commedia dell'Arte, Marlowe, Jonson, and other dramatists of the Elizabethan theatre, excluding Shakespeare.

160C. Development of Dramatic Art
(4) EGAN

A study of French drama of the seventeenth century and British drama of the Restoration and eighteenth century, focusing on the plays of Corneille, Moliere, Racine, Wycherley, Congreve, Sheridan, and others, and dealing with related developments in theatre, culture, and society.

160D. Development of Dramatic Art
(4) STATES

A study of the evolving forms and styles of drama and theatre from 1700 to the rise of realism and expressionism, including plays by Schiller, Sheridan, Buechner, Scribe, Zola, Gogol, Turgenev, Hauptmann, Wedekind, and others.

160E. Development of Dramatic Art
(4) EGAN, WILLIAMS

A study of European drama in the period from Ibsen to World War I, focusing on the plays of Ibsen, Strindberg, Chekhov, Shaw, and others, and dealing with related developments in theatre, culture, and society. (W)

160F. Development of Dramatic Art
(4) STATES

A study of the evolving forms and styles of drama and theatre from World War I to the present, including plays by Shaw, Pirandello, Brecht, O'Neill, Miller, Sartre, Beckett, Ionesco, Pinter, and others.

161A. The Rise of the Professional Theatre
(4) WILLIAMS

Prerequisite: upper-division standing.

The history of the theatre from the mid-seventeenth century to the end of the nineteenth century. Focus will be on the rise of the acting profession, the establishment of standing theatres, and the evolution of playhouse architecture, scene design, and physical production. Plays that highlight these issues will be read and discussed.

161B. The Modern Theatre: Theory and Practice
(4) WILLIAMS

Prerequisite: upper-division standing.

The history of the theatre from the late nineteenth century to the present day. Readings on the theory of major theatrical innovators and an investigation of how and whether these theories were realized on stage. Particular emphasis on the work of Stanislavsky, Appia, Craig, Meyerhold, Piscator, Brecht, Artaud, Barrault, Wieland, Wagner, and the contemporary avant-garde.

162. Shakespeare on Film and Stage
(4) POTTER

An investigation of Shakespeare's plays through the media of performance; viewing of Shakespearean productions on film and videotape, in classroom rehearsal, and in stage performances as available; reading and critical analysis of selected Shakespearean plays.

164. Music-Drama and Opera
(4) MARK

Introduction to and survey of masterpieces of music-drama and opera. Exploration of the relationship of musical and theatrical values.

165. The Theatre of Silence
(4) STATES

Prerequisites: Dramatic Art 61, upper-division standing, and consent of instructor.

Exploration of the volution of subtext in modern drama through close examination of plays of Chekov, Pinter, and Beckett. Examination of the shift in the role of speech, and emergence of "the pause" and "silence" as dramatic elements.

170. Combat for the Stage
(3) STAFF

Prerequisites: Dramatic Art 110C and Physical Activities 1-18D; or consent of instructor.

Advanced techniques in choreographing and staging unarmed combat. Also introduction to weapons: single rapier and quarterstaff.

174. Acting for Singers
(3) STAFF

Prerequisite: consent of instructor.

Acting techniques and vocabulary focusing on the specific problems and requirements of the singer. Exercises in physical relaxation and flexibility, improvisation, imagination, interpretation of musical and textual clues, subtext, and characterization.

190. Production Administration
(3) STAFF

Prerequisites: consent of instructor and department chair approval. May be repeated for up to 6 units of credit.

Workshop for advanced students functioning as assistants to directors, designers, and technical directors. Portfolio, promptbook, or paper required.

191. Theatre Management
(4) STAFF

Prerequisite: consent of instructor.

Business organization and management for the educational, community, and professional theatre, including budgeting, publicity, public relations, and box office principles.

192. Projects in Music Theatre
(4) MARK

Prerequisite: consent of instructor. May be repeated once for credit.

Special projects for directors, designers and technical students in practical musical theatre production.

193H. Senior Honors Project
(4) STAFF

Prerequisites: senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. This course is for students who will complete their projects in one quarter. A final grade will be assigned upon completion.

Advanced thesis project in either academic research or creative activity, supervised by a faculty adviser. Students successfully completing the project, as evaluated by a three-person committee, will graduate with Distinction in the Major.

193HA-HB-HC. Senior Honors Project
(2-4, 2-4, 2-4) STAFF

Prerequisites:
HA: senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. Four to 8 units required in honors sequence; minimum of two units per quarter. This course is the first in the sequence for students who will complete their projects in either two or three quarters. An "in-progress" grade will be assigned; students may then enroll in either Dramatic Art 193HB or 193HC.
HB: Dramatic Art 193HA; senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. Four to 8 units required in the honors sequence; minimum two units per quarter. This course is the second in the sequence for students who will complete their projects in three quarters. An "in-progress" grade will be assigned; students will then enroll in Dramatic Art 193HC.
HC: Dramatic Art 193HA or 193HB; senior standing; 3.0 university grade-point average; 3.4 departmental grade-point average, unless exempt by petition; faculty nomination. Four to 8 units required in the honors sequence; minimum 2 units per quarter. This course is the final in the two or three-quarter sequence. A final grade will be assigned upon completion.

Advanced thesis project in either academic research or creative activity, supervised by a faculty advisor. Students successfully completing the project, as evaluated by a three-person committee, will graduate with distinction in the major.

194. Group Studies for Advanced Students
(1-4) STAFF

Prerequisites: upper-division standing and consent of the department chair. May be repeated for up to 8 units of credit.

Intensive study, research, and project preparation.

199. Independent Studies in Dramatic Art
(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in dramatic art. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

GRADUATE COURSES

200. Graduate Colloquium
(1) WILLIAMS

Prerequisites: graduate standing. Required of all new graduate students.

Introduction to the library for graduate students who have just joined the program. Exercises in the bibliography of theatre. Will meet three times during fall quarter.

201. Graduate Colloquium
(1) STAFF

Prerequisites: graduate standing. May be repeated for credit. Required of all doctoral students.

Three times during winter quarter. Topics will include writing for periodicals, job opportunities, research projects of students and faculty, conferences and learned societies. Guests will be invited to talk about research projects and professional interests.

202. Graduate Colloquium
(1) STAFF

Prerequisites: graduate standing. May be repeated for credit. Required of all doctoral students.

Three times during spring quarter. Topics will include writing for periodicals, job opportunities, research projects of students and faculty, conferences and learned societies. Guests will be invited to talk about research projects and professional interests.

210. Tragic Drama
(4) STATES

Prerequisite: graduate standing.

The theory and practice of tragedy from the Greeks to modern times. Dramatists include Aeschylus, Sophocles, Euripides, Shakespeare, Webster, and Ibsen. Theory includes texts by Aristotle, Hegel, Nietzsche, Girard, Ricoeur, Lukacs, Frye, and others.

211. Comic Drama
(4) STATES

Prerequisite: graduate standing.

The theory and practice of comedy from the Greeks to modern times. Dramatists include Aristophanes, Shakespeare, Moliere, Sheridan, Shaw, Stoppard, and others. Theory includes texts by Kierkegaard, Bergson, Freud, Koestler, Cook, Frye, Langer, and others.

212. Drama of Mixed Genres
(4) EGAN

Prerequisite: graduate standing.

Masterpieces of intermingled forms from Greeks to the present. Dramatists include Euripides, Shakespeare, Moliere, Pinter, and others.

220. The History and Theory of Acting
(4) WILLIAMS

Prerequisite: graduate standing.

Readings in the major theorists of acting and in the history of acting in the Western and Asian theatre.

221. The History and Theory of Directing
(4) WILLIAMS

Prerequisite: graduate standing.

Readings in the major theorists of directing and in the history of directing in the modern and contemporary theatre.

222. The History of Physical Theatre
(4) WILLIAMS

Prerequisite: graduate standing.

A study of the architectural development of Western and Asian theatre with attention paid to the impact of the theatre space on modes of performance.

230. Dramatic Theory: Aristotle to Lessing
(4) STATES

Prerequisite: graduate standing.

Detailed study of theories from The Poetics to the Hamburg Dramaturgy.

231. Modern Dramatic Theory
(4) STATES

Prerequisite: graduate standing.

Major theories and concepts from Lessing to Langer.

240. Foundations of American Theatre and Drama
(4) KING
Prerequisite: graduate standing.

Topics in the study of emergent American drama and theatre from the beginnings into the early twentieth century. Content variable.

241. Twentieth Century American Theatre and Drama
(4) KING
Prerequisite: graduate standing.

Topics in the study of American theatre and drama from the early twentieth century to the present day. Content variable.

242. Asian Drama and Theatre
(4) STAFF
Prerequisite: graduate standing.

Oriental and Indian styles in drama and theatre.

243. Medieval Drama
(4) POTTER
Prerequisite: graduate standing.

An exploration of the sacred and profane traditions of drama in medieval England and the Continent, with close attention to staging practices and the social and intellectual context of the times.

244. Shakespeare
(4) EGAN
Prerequisite: graduate standing.

Study of Shakespeare's artistry through intensive discussion of selected plays and analysis of criticism, staging, and sources.

245. Early Modern Drama
(4) WILLIAMS
Prerequisite: graduate standing.

An intensive study of one or more of the following playwrights: Ibsen, Strindberg, Chekhov, Shaw, Wedekind, Schnitzler, and other playwrights between 1880 and 1914.

246. Modern British Drama: Shaw and Contemporaries
(4) EGAN
Prerequisite: graduate standing.

Study of major British playwrights of the late nineteenth and earlier twentieth century, focussing especially on George Bernard Shaw.

247. Modern British Drama: Osborne to Present
(4) EGAN
Prerequisite: graduate standing.

Study of major contemporary playwrights.

250. Dramatic Literature and Theatre History
(4) STAFF
Prerequisite: graduate standing.

Varies in content from year to year. Recent offerings have included Tudor and Stuart Drama, Epic Theatre, the Irish Theatre, opera and drama. Literature on the theatre, feminist drama.

251. Studies in Drama
(4) STAFF
Prerequisite: graduate standing.

Studies in drama utilizing whenever possible visiting scholars and specialists in theatre and drama. Content variable. (Will be offered irregularly.)

260. Advanced Problems in Theatre Practice
(1-4) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 12 units.

Discussion of problems in repertory; practical application of specialized individual projects.

261. Advanced Problems in Directing
(4) LACKNER
Prerequisite: graduate standing.

Discussion of advanced problems in directing; practical application and projects.

262. Advanced Problems in Design
(4) STRASBURG
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

Discussion of advanced problems in design; practical application and projects.

263. Advanced Problems in Dramaturgy
(2) STAFF
Prerequisite: graduate standing. May be repeated for credit to a maximum of 8 units.

Discussion of advanced problems in dramaturgy; practical application and projects.

500. Teaching: Methods and Practice
(4) STAFF
Prerequisites: graduate standing and current appointment as a departmental teaching assistant. May be repeated for credit. Required of all teaching assistants. S/U grade.

Introduction to the problems and techniques of teaching dramatic art, through teaching responsibilities in departmental courses and through consultation with supervising faculty members.

501. Master's Thesis Project, Research and Creative
(1-8) STAFF
Prerequisite: consent of instructor. May be repeated for credit to a maximum of 8 units. S/U grade.

502. Directed Reading and Research
(2-8) STAFF
Prerequisite: consent of instructor.

Individual tutorial. A written proposal for each tutorial must be approved by the department chair.

503. Dissertation Research and Preparation
(1-12) STAFF
Prerequisite: consent of chair of student's doctoral committee. May be repeated for credit to a maximum of 36 units. S/U grading.

Dissertation research and preparation.

East Asian Languages and Cultural Studies

East Asian Languages and Cultural Studies Program,
Division of Humanities and Fine Arts,
Phelps Hall 6316;
Telephone (805) 893-4687
Program Chair: Ronald Egan

Faculty

Robert L. Backus, Ph.D., UC Berkeley, Professor Emeritus

Chi-yun Chen, Ph.D., Harvard University, Professor *(Chinese history)*

Ronald Egan, Ph.D., Harvard University, Associate Professor *(Chinese literature, aesthetics)*

Joshua Fogel, Ph.D., Columbia University, Professor *(Chinese and Japanese history, historiography)*

Chauncey S. Goodrich, Ph.D., UC Berkeley, Professor Emeritus

Alan Grapard, Diploma for Advanced Studies and Research, National Institute for Oriental Languages and Civilizations, Paris, Associate Professor *(Japanese religions)*

Chen-chuan Hsu, M.A., UC Santa Barbara, Lecturer *(Chinese language)*

Haruko Iwasaki, Ph.D., Harvard University, Associate Professor *(Japanese literature—Edo)*

Katherine Saltzman-Li, M.A., Stanford University, Acting Assistant Professor *(Japanese literature and drama)*

Hyung Il Pai, Ph.D., Harvard University, Assistant Professor *(Korean history, East Asian archaeology)*

Kenneth H. Pai, M.F.A., Iowa State University, Professor *(modern Chinese fiction)*

William Powell, Ph.D., UC Berkeley, Associate Professor *(Chinese religions)*

Kuo-ch'ing Tu, Ph.D., Stanford University, Professor *(modern Chinese poetry, East Asian poetics)*

Hsiao-jung Yu, Ph.D., UC Berkeley, Assistant Professor *(Chinese linguistics, pre-modern fiction)*

Affiliated Faculty

Joseph Lam, Ph.D. (Music)

Luke Roberts, Ph.D. (History)

Peter Sturman, Ph.D. (Art History)

Mayfair Yang, Ph.D. (Anthropology)

The East Asian Language and Cultural Studies Program offers majors in Asian Studies, Chinese, and Japanese, together with coursework in four areas: East Asian cultural studies (involving more than one East Asian country), Chinese, Japanese, and Korean.

Asian Studies, an interdepartmental program administered by East Asian Languages and Cultural Studies, offers an undergraduate major leading to the B.A. degree and a graduate program leading to the M.A. Both the undergraduate and the graduate programs enable the student to study an Asian area (China, Japan, or Korea) through two or more academic disciplines and, at the same time, to acquire at least two years of training in a language relevant to the area of study. The disciplines that contribute most to Asian Studies at UCSB are anthropology, art history, literature, history, philosophy, political science, and religious studies. The languages which may be taken at UCSB in conjunction with Asian Studies courses are Chinese (Mandarin and Classical), Japanese, and Korean. Any literary Asian language, however, can serve to fulfill the language prerequisite if the student can demonstrate competence by exam equivalent to two years of study.

The chair serves as undergraduate and graduate adviser. It is important to consult early with the adviser to ensure a proper balance between breadth and concentration in the study plan. In addition, students are required to meet with the adviser at least once each year to discuss their work and any issues that have arisen, or seem likely to arise, in the course of their studies.

Interdisciplinary study of an Asian culture, together with language training, provides a good basis for graduate work at the M.A. or Ph.D. level. In addition, the Asian Studies major provides specialized knowledge for students who anticipate a career in business, law, journalism, government service, or museum work.

It should be noted, however, that additional training in a professional school is necessary for entrance into many of these fields.

After completing specific prerequisites, students with a major in Asian Studies are eligible to pursue a California teaching credential. Those interested should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education. The Chinese and Japanese majors provide an opportunity for extensive language training and interdisciplinary coursework, concentrating on the humanistic fields of literature, history, and religious studies. The major in Chinese begins with work in modern Mandarin, the standard speech of the Beijing area, and moves on subsequently to Classical Chinese, which was the dominant literary medium until the twentieth century. The major in Japanese permits a concentrated study of the standard language of the Tokyo area and encourages an acquaintance with the factors that underlie that language, namely Classical Japanese and Classical Chinese. Beyond language training, both of these majors focus on the humanistic fields set within a broad social and historical context.

The Chinese and Japanese majors are more geographically and culturally specific than is the Asian studies major, and they require considerably more advanced language training in Chinese or Japanese. Students should examine the different majors to determine which best suits their objectives.

The Chinese and Japanese majors are intended to provide preparation for graduate academic work in East Asian studies, or for careers in a wide variety of fields, including business, journalism, diplomacy, and museum work. Many recent majors have gone on to combine their undergraduate training with a professional degree in law or international management.

Undergraduate Program

Bachelor of Arts—Asian Studies

Preparation for the major. Students must have at least two years (24-27 units) of an Asian language pertaining to the area of their interest (or demonstrate an equivalent level of competence). In addition, they must take at least 8 units of lower-division work selected from the following list: Art History 6D; Chinese 33; East Asian Cultural Studies 3, 80G, 80K, 83; History 80, 86, 90; Japanese 22, 32; Religious Studies 3, 20, 21.

Upper-division major. The major consists of 40 units of upper-division courses selected from two or more disciplines and generally concentrating on China, Japan, or Korea. It is advisable that one of the disciplines be history; in any case, all majors are required to take 4 units of Asian history chosen from the lower- or upper-division list. Courses for the major may be selected from the following list. Courses outside the list may be substituted in consultation with the adviser to accommodate individual interests consonant with the overall purpose of the program.

Course List for Upper-Division Majors

Anthropology

134H. Korean Culture and Society
138A. Traditional Chinese Society
138B. Contemporary Chinese Society
138H. Folk Religion and Ritual of East Asia
142. Peoples and Cultures of India
144. Peoples and Cultures of Southeast Asia

Art History

151C. Arts of the South Seas
180. Buddhist Art
182A. Early Chinese Art
182B. Chinese Painting
182C. Landscape Art of China
183A. The Art of Japan
183B. Japanese Painting
183C. Ukiyo-e: Pictures of the Floating World

Chinese

101A-B-C. Elementary Classical Chinese
102A-B-C. Advanced Chinese Conversation
105. Workshop in Chinese Translation
110A. Classics of Ancient China
110B. The Great Age of Chinese Poetry
111. The Traditional Chinese Short Story
112A-B. Major Movements in Modern Chinese Literature
115A. Imagism, Haiku, and Chinese Poetry
120. Readings in Modern Social and Political Writings
122A-B-C. Advanced Modern Chinese
124A-B. Readings in Modern Chinese Literature
125. Business Chinese
130A. Readings in Classical Philosophy
130B. Readings in Historical Texts
130C. Readings in Literary Prose
132A. Special Topics in Classical Chinese Poetry
132B. Special Topics in Modern Chinese Poetry
133. Advanced Readings in Classical Prose
134. Advanced Readings in Classical Poetry
135. Advanced Readings in Modern Literature
136. Advanced Readings in Vernacular Literature
137. Readings in Vernacular Drama
138A-B-C. Masterpieces in Chinese Fiction
141. China in Transition Through Films
142. A Sense of Place in Chinese Literature
144. The Aesthetics of Calligraphy, Painting, and Poetry
145. Mythology and the Supernatural in Chinese Literature
166B. Taoist Traditions of China
166E. The Flowering of Chinese Buddhism
180F. Chinese Archaeology
198. Readings in Chinese
199. Independent Studies in Chinese Eastern Languages

East Asian Languages and Cultural Studies

110A. Pro-Seminar in Critical Studies in East Asia
110B. Pro-Seminar in Critical Studies in East Asia
175. Sacred Geography in China and Japan

Film Studies

120. Styles of Japanese Cinema

History

90. Japanese History through Art and Literature
104. Great Minds in World History
180A-B-C. History and Culture of East Asia
180D. Korean History and Civilization
180E. Korean Art and Archaeology
180P. Proseminar in East Asian History and Culture
184A-B-C. China's Major Dynasties
184P. Proseminar in China's Major Dynasties
185A. Modern China from 1600 to 1900
185B. Modern China from 1900 to Date
185M. Chinese Marxism
185P. Proseminar in Chinese Marxism
186A. History of China: Ancient China to A.D. 200
186B. History of China: Medieval China, A.D. 200 to 1000
186C. History of China: Early Modern China, A.D. 1000 to 1600
186P. Proseminar in History of China
187A. Japan Under the Tokugawa Shoguns
187B. Modern Japan
187C. Recent Japan
187P. Proseminar in Japanese History
190A. China's Social and Institutional History
190B. Problems in Chinese History
190C. History of Chinese Thought
190W. Chinese Historiography

Japanese

9. Japanese Composition
101. The Structure of Classical Japanese
110A. Survey of Japanese Literature: Classical
110B. Survey of Japanese Literature: Medieval
110C. Survey of Japanese Literature: Early Modern
111. Topics in Traditional Japanese Literature
112. Survey of Modern Japanese Literature
115. Topics in Modern Japanese Literature
116. Post-War Japanese Literature
117. Images of Japan: The Ideology of Representation
119. Shugendo: Japanese Mountain Religion
120A-B-C. Readings in Modern Japanese
125. Modern Business Japanese
130A-B-C. Advanced Readings in Modern Japanese
135. Advanced Special Readings
140. Topics in Japanese Culture
149. Forms of Japanese Drama
150. Survey of Modern Japanese Society
163. Images of Japan: The Ideology of Representation
198. Readings in Japanese
199. Independent Studies in Japanese

Korean

120. Korean Culture and Society
180DA. Korean History and Civilization
180DB. Korean History and Civilization
180E. Korean Art and Architecture

Political Science

131. China in World Affairs
135. Government and Politics of Japan
136. Government and Politics of China
137. Pacific Community: Politics and Cultures
138. Political and Economic Development in Pacific Rim Countries
139. Government and Politics of Southeast Asia

Religious Studies

157. Religious Arts of Asia
158. Religion and Hindu Iconography
159A-B-C-D-E-F-G-H-I-J-K-L. Religious Literature in Sanskrit

160. Religious Systems of India
161A. Yoga Traditions of India
161B. Buddhist Meditation Traditions
162A. Indian Philosophy and Religion
162B. Seminar on Shankara and Nagarjuna
164A-B. The Buddhist Tradition
165. The Upanishadic Tradition of India
166A. Religion in Chinese Culture
166B. Taoist Traditions of China
166C. Confucian Traditions: The Classical Period
166E. The Flowering of Chinese Buddhism
166F. Religious Literature in Chinese: Buddhist Texts
166G. Religious Literature in Chinese: Confucian Texts
166H. Religious Literature in Chinese: Taoist Texts
167A-B. Religion in Japanese Culture
167D. Shinto

Bachelor of Arts—Chinese

Preparation for the major. Students may elect to emphasize either Mandarin or Classical Chinese. The Mandarin concentration requires at least three quarters of Classical Chinese; the Classical concentration requires at least three quarters of Mandarin. Completion of a concentration in either Mandarin or Classical Chinese is voluntary and will not be formally acknowledged on official transcripts or diplomas. Required: Chinese 1, 2, 3, 4, 5, 6 (for Mandarin concentration); Chinese 1, 2, 3, 101A-B-C (for Classical concentration); two quarters of Chinese 8A-B-C; History 80. Art History 6D, History 86, and Religious Studies 20 and 21 are recommended. Students who have completed a more advanced course in a lower-division language sequence will not be permitted to take for credit a course that is lower in the sequence. Only letter grades are credited to the preparation for the major, with the following exception: a lower-division language course when the final course in the sequence is passed with a C or better.

Upper-division major. Students pursuing the Classical Chinese concentration must complete 44 upper-division units, including the following: 20 units of Classical Chinese from 130A-B-C, 132A-B, 133, 134, 137; 12 units from Art History 180, 182A-B, East Asian Cultural Studies 110A-B; History 184A-B-C-P, 185A-B, 186A-B-C-P, 190A-B-C, Anthropology 138A-B, Political Science 131, 136, Religious Studies 164A-B, 166A-B-C-D-E; 12 units from Chinese 110A-B, 111, 112A-B, 115A, 133, 134, 138A-B-C, 141, 142, 144, 145. Students pursuing the Mandarin concentration must complete 44 upper-division units, including the following: Chinese 101A-B-C, one course from 130A or 130B or 130C or 132A or 132B; 12 units of Mandarin from 102A-B-C, 120, 122A-B-C, 124A-B, 135, 136; 8 units from Art History 180, 182A-B; East Asian Cultural Studies 110A-B; History 184A-B-C-P, 185A-B, 186A-B-C-P, 190A-B-C, Anthropology 138A-B, Political Science 131, 136, Religious Studies 166A-B-C-D-E; 8 units from Chinese 105, 110A-B, 111, 112A-B, 115A, 125, 138A-B-C, 141, 142, 144, 145.

Senior Honors Program in Chinese

Students may request nomination for the senior honors program in Chinese by filing an application, or they may be nominated by the faculty. The minimum grade-point average for entrance to the program is 3.0 overall and 3.5 in the Chinese major. Candidates for the program must have completed at least 105 units, must expect to graduate within five quarters, and must have completed at least two upper-division courses in Chinese. Applications for the program and brochures describing requirements are available in the department office.

Bachelor of Arts—Japanese

Preparation for the major. Required, with an average grade of C or better: Japanese 1, 2, 3, 4, 5, 6; 4 units from the 8A-B-C series or Japanese 9; one course from East Asian Cultural Studies 3, Japanese 22, 32, History 80 or 90. Upper-division students may substitute Japanese 140 or 150 for Japanese 32 or History 187A, 187B, or 187C for History 80. (If an upper-division course is substituted, however, it cannot be applied to the upper-division major). Students who have completed an advanced course in a lower-division language sequence will not be permitted to take for credit a course that is lower in the sequence. Only courses taken with letter grades are credited to the preparation for the major, with the following exceptions: Japanese 2A and a lower-division language course when the final course in the sequence is passed with a C or better.

Upper-division major. Forty-four units are required with an average grade of C or better: Japanese 101A, 20 units from Japanese 120A-B-C, 125, 130A-B-C, 135, and 198; 4 units from History 180A, 180B, 180C, 180P, 187A, 187B, 187C, 187P; 16 units from Art History 183A-B-C; East Asian Languages and Cultural Studies 110A-B, 175; Japanese 110A-B-C, 111, 112, 115, 116, 117, 119, 140, 149, 163; Religious Studies 167A-B-D; and Chinese 101A. For additional study relevant to the major, any of the courses on Japan offered in art history, history, political science, and religious studies are recommended, in addition to courses in Classical Chinese. A course in literary theory and criticism is highly recommended, and may be substituted by arrangement with the major adviser for one of the courses in the major.

Senior Honors Program in Japanese

Students may request nomination for the senior honors program in Japanese by filing an application, or they may be nominated by the faculty. The minimum grade-point average for entrance to the program is 3.0 overall and 3.5 in the Japanese major. Candidates for the program must have completed at least two upper-division courses in Japanese. Applications for the program and brochures describing the requirements are available in the department office.

Graduate Program

In addition to program requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Asian Studies

Admission

Applicants to the M.A. program in Asian Studies must meet the general requirements for admission to graduate standing. They must submit a statement of purpose to the chair of the Advisory Committee on Asian Studies describing their preparation for the work in the program and the objective they hope to attain. Preparation may include an undergraduate degree in a relevant discipline as well as courses dealing with Asia; some training in an Asian language is recommended. On the basis of this statement, the committee will decide whether applicants are eligible for the program and whether an interdisciplinary program is best suited to their needs. Inquiries regarding the M.A. program in Asian Studies should be directed to the Chair, Advisory Committee on Asian Studies, or to the Graduate Division, University of California, Santa Barbara, CA 93106.

Degree Requirements

Students admitted to the M.A. program may pursue the degree under Plan 1 (thesis) or Plan 2 (comprehensive examination).

Plan 1. Plan 1 students must complete 30 units of upper-division and graduate work, fulfill the language requirement, and write a thesis. The 30 units must include no fewer than 12 units of graduate work taken in at least two departments. Students who choose this plan must satisfy two additional conditions for admission to candidacy: (1) they must demonstrate the capacity to do some of their thesis research in an Asian language pertaining to their region of interest; and (2) they must submit to the Committee on Asian Studies one research paper, written for any graduate course, as evidence of their capacity to conduct intellectual inquiry and to write competently.

The student may choose a thesis adviser, but the finished thesis must be approved by a committee consisting of the thesis adviser and two additional faculty members nominated by the chair of the Committee on Asian Studies and appointed by the dean of the Graduate Division.

To fulfill the language requirement, courses in one Asian language pertaining to the region of the student's interest must be taken each quarter for a total of 36 units in one language, including lower-division units. Upper-division language courses may be counted for up to 8 units toward completion of the required units of regular coursework. The language requirement will be waived for a student who enters the program with sufficient competence to use an Asian language in regular coursework, and it will be considered fulfilled at any stage in the program at which the student achieves such competence.

Plan 2. Plan 2 students must complete 36 units of upper-division and graduate work, fulfill the same language requirement described in Plan 1 above, and pass a comprehensive examination. The 36 units include not fewer than 18 units of graduate work taken in at least two departments.

Students who elect Plan 2 need not have

mastered an Asian language to a level at which it can be used for research, but they must demonstrate, by at least a B average in the language courses, that they can deal effectively with the structural and semantic problems of the language and are capable of pursuing this study independently. They must also demonstrate the ability to conduct intellectual inquiry and to write competently by submitting two research papers, written for any graduate course, to the Committee on Asian Studies. After approval, students will be permitted to go on to the comprehensive examination, consisting of two three-hour sessions covering their chosen fields in two disciplines; they will be required to prove both a factual and an interpretive understanding of the region of their interest.

In addition to upper-division courses in the major, graduate students may take courses from the following list. Upper-division and graduate courses outside the list may be substituted on consultation with the adviser. Anthropology 270C-D; Art History 282; Chinese 201, 596, 598; History 200AS, 201AS, 280, 281, 284, 285, 286, 288; Japanese 201, 596, 598; Philosophy 223A-B; Political Science 279, 285, 286; Religious Studies 202, 203, 204, 206, 207, 246, 254, 255, 257, 259, 260.

Master of Arts—Emphasis in East Asian Languages and Cultural Studies

This emphasis provides a course of study with a geographic focus on East Asia (China, Korea, Japan) and an interdisciplinary approach, concentrating on the humanities. The emphasis stresses advanced language training as the foundation for research on East Asian cultures. It is assumed that most students will concentrate either upon China or Japan, but the emphasis also requires some study of a second East Asian country, as well as training in critical reappraisals of traditional representations of East Asian cultures. The coursework concentrates on the fields of history, literature, religious studies, and anthropology. Two tracks or plans of study are available, one academic, for students who will go on to pursue the Ph.D., and the other for students who will go into careers in business or government or combine their M.A. with other professional degrees.

Admission

Students will be admitted directly into the emphasis, which is administered by the East Asian Languages and Cultural Studies Program. Applicants are expected to have three years of language training, or their equivalent, in one East Asian language prior to admission. Students with less background may be admitted at the discretion of the program. All students must take the GRE, and students whose native language is not English must take TOEFL. Applicants also submit a statement of purpose describing their preparation and objectives. Inquiries should be directed to the Chair, East Asian Languages and Cultural Studies Program, University of California, Santa Barbara, CA 93106.

Degree Requirements

Students admitted to the emphasis may pursue the degree under Plan 1 (thesis) or Plan 2 (comprehensive examination).

Plan 1. Plan 1 is the academic track, intended for students who go on to pursue the Ph.D. It requires a total of 60 units of coursework in Chinese, Japanese, or East Asian Cultural Studies courses, and 12 units of thesis work, which shall include 48 units of graduate or upper-division coursework and 12-15 units of a second East Asian language or the classical form of the language of the country of specialization. The thesis should demonstrate the student's ability to do original research using sources in Chinese, Japanese, or Korean.

Plan 2. Plan 2 is the track intended for students who will go on to careers outside of academia. It requires 68 units of coursework in Chinese, Japanese, or East Asian Cultural Studies courses, and 4 units for the comprehensive exams. These must include 36 units of graduate or upper-division coursework, 12-15 units of a second East Asian language (or classical form), and 20 units in courses in other departments (Economics, Communications) commensurate with the student's career goals. Under this plan, a comprehensive examination is substituted for the thesis. Candidates will be examined in two fields to be determined in consultation with an advisory committee.

Chinese Courses

LOWER DIVISION

1. Elementary Modern Chinese
(5) STAFF
Prerequisite: not open for credit for students who have completed Chinese 1N.

The beginning course in Chinese. The student acquires a basic knowledge of the grammar, a limited general vocabulary, correct pronunciation, and an ability to read and understand simple texts. Weekly laboratory assignments support and enhance classroom learning. (F)

1N. Elementary Chinese for Native Speakers
(2) STAFF
Prerequisite: consent of instructor. Not open for credit to students who have completed Chinese 1.

This course is intended for native mandarin speakers who wish to learn to read and write Chinese. the content is similar to Chinese 1 with less emphasis on developing oral skills.

1S. Chinese Language and Culture: An Introduction
(4) STAFF

A course of beginners and low-to-intermediate learners interested in Chinese language and culture. Students will learn basic conversational skills and essential vocabulary for practical communication. Video medium will be used to introduce various cultural activities in daily life.

2. Elementary Modern Chinese
(5) Staff
Prerequisite: Chinese 1 or equivalent.

Continuation of Chinese 1.

3. Elementary Modern Chinese
(5) STAFF
Prerequisite: Chinese 2 or equivalent.

Continuation of Chinese 2.

4. Intermediate Modern Chinese
(5) STAFF
Prerequisite: Chinese 3 or equivalent.

Continuation of Chinese 3.

5. Intermediate Modern Chinese
(5) STAFF
Prerequisite: Chinese 4 or equivalent.

Continuation of Chinese 4.

6. Intermediate Modern Chinese
(5) STAFF
Prerequisite: Chinese 5 or equivalent.

Continuation of Chinese 5.

7. Chinese Conversation
(2) STAFF
Prerequisite: Chinese 3 or equivalent.

Introduction to Chinese conversation. (Offered summer session only.)

8A-B-C. Chinese Conversation
(2-2-2) STAFF
Prerequisite: Chinese 3 or equivalent.

The course is designed to increase facility and naturalness of delivery in simple dialogue.

9. Introduction to Business Chinese
(4) STAFF
Prerequisite: Chinese 5 or equivalent. This course is designed to be taken concurrently with, or instead of, Chinese 6.

An introduction to business vocabulary and correspondence.

33. Introduction to Chinese Civilization
(4) STAFF
The perennial values and problems of Chinese civilization. Selected readings of major philosophical and literary works (in English translation). Topics include Confucianism, Taoism, aesthetics, domestic life, and Chinese culture in the twentieth century.

UPPER DIVISION

101A-B-C. Introduction to Classical Chinese
(4-4-4) EGAN
Prerequisite: Chinese 3 or consent of instructor.

The grammar and vocabulary of Classical Chinese. Readings will concentrate on philosophical and historical works from the pre-Han period, with some selections from later prose and poetry. Students with some familiarity with Chinese characters (through another Asian language) but not modern Chinese will be accommodated.

102A-B-C. Advanced Chinese Conversation
(2-2-2) STAFF
Prerequisites: Chinese 8A-B or equivalent.

A course designed to provide an opportunity for upper-division students to continue a concentration on conversational Chinese.

105. Workshop in Chinese Translation
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Practical work in translation from a variety of Chinese sources depending on need. Emphasis on accuracy and rigor.

110A. Classics of Ancient China
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Survey of major philosophical and literary works (1000 B.C to A.D. 200) in English translation. Readings from Book of Songs, Analects, Lao-tzu, and Records of the Grand Historian (Shih-chi).

110B. The Great Age of Chinese Poetry
(4) STAFF
Prerequisite: upper-division standing.

Survey of lyric poetry and prose (A.D. 200 to 1300) in English translation, with attention to the literary theory and criticism of the period. Discussion of the cultural context of dominant themes.

111. The Traditional Chinese Short Story
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

This course examines the beliefs and values of traditional China through the medium of the short story. Rhetorical techniques of the Chinese author will be discussed as evidence of the author's and the audience's exploration of these same concepts in practice.

112A-B. Major Movements in Modern Chinese Literature
(4) PAI, TU

Prerequisite: upper-division standing or consent of instructor.

A: May Fourth movement. Focus on Lu Hsun, Lao She, Pa Chin. Studies in major intellectual and political movements in twentieth-century China. Genres include fiction, poetry, drama, and memoirs by major writers. Lectures and readings in English.

B: Great Cultural Revolution. Works by dissident writers. Studies in major intellectual and political movements in twentieth-century China. Genres include fiction, poetry, drama, and memoirs by major writers. Lectures and readings in English.

115A. Imagism, Haiku, and Chinese Poetry
(4) TU

Prerequisite: upper-division standing or consent of instructor.

A comprehensive study of the nature and principles of the *haiku* and of classical Chinese poetry, their influence on the western imagists, and the theoretical and experimental achievements of the major imagist poets in the development of modern English poetry. Taught in English.

120. Readings in Modern Social and Political Writings
(4) PAI, TU

Prerequisite: Chinese 6 or equivalent.

Selected readings in the Chinese language on social and political writings.

122A-B-C. Advanced Modern Chinese
(4-4-4) PAI, TU

Prerequisite: Chinese 6 or equivalent.

Advanced practice in grammar and composition.

124A-B. Readings in Modern Chinese Literature
(4-4) PAI, TU

Prerequisite: upper-division standing or consent of instructor.

Advanced readings in the Chinese language in fiction, drama, and poetry after 1919. Designed especially for returned students from the Education Abroad Program and students with advanced Chinese background.

125. Business Chinese
(4) STAFF

Prerequisites: Chinese 3 or equivalent; upper-division standing or consent of instructor.

A course intended to equip the properly qualified student to conduct business in modern Chinese. Emphasis will be place on using appropriate vocabulary in realistic situations.

130A. Readings in Classical Philosophy
(4) EGAN

Prerequisite: Chinese 101A-B-C or equivalent.

Selections from pre-Han philosophical texts, including Lun-yu, Meng-tzu, Chuang-tzu, and Han Fei-tzu. Discussion of the philological and philosophical issues raised by these works.

130B. Readings in Historical Texts
(4) EGAN

Prerequisites: Chinese 101A-B-C or equivalent.

Selections from the dynastic histories, including Shih-chi, Han-shu, Hou-Han-shu, and San-kuo chih.

130C. Readings in Literary Prose
(4) EGAN

Prerequisites: Chinese 101A-B-C or equivalent.

Selections from prose masters from the Han through Sung dynasties with attention to genre theory, literary style, and intellectual history.

132A. Special Topics in Classical Chinese Poetry
(4) PAI, TU

Prerequisites: upper-division standing or consent of instructor.

Topics focus on major themes in classical poetry with emphasis on Buddhist, Taoist, and symbolist poems in pre-modern period. Readings in Chinese, lectures and discussions in English.

132B. Special Topics in Modern Chinese Poetry
(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Topics focus on major trends of modern poetry developed in mainland China and Taiwan with particular attention to romanticism, realism, and modernism after contact with the West. Readings in Chinese, lectures and discussions in English.

133. Advanced Readings in Classical Prose
(2-4) STAFF

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 12 units but only 4 units may be applied toward the major.

Readings in various periods and genres (history, philosophy, the essay, prose narrative).

134. Advanced Readings in Classical Poetry
(2-4) STAFF

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 12 units but only 4 units may be applied toward the major.

Readings in the poetry of various periods before the twentieth century.

135. Advanced Readings in Modern Literature
(2-4) STAFF

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 12 units but only 4 units may be applied toward the major.

Readings in creative and critical writings of the twentieth century.

136. Advanced Readings in Vernacular Literature
(2-4) STAFF

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit up to a maximum of 12 units but only 4 units may be applied toward the major.

Readings in novels of the Ming and Ch'ing periods.

137. Readings in Vernacular Drama
(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

A course designed as an introduction to the vernacular drama of the Yuan, Ming, and Ch'ing dynasties in English translation. Due attention will be paid to dramatic conventions and historical allusions that must be understood.

138A-B-C. Masterpieces in Chinese Fiction
(4-4-4) PAI

Prerequisite: upper-division standing or consent of instructor.

A study of masterpieces in Chinese fiction. Lectures and readings in Chinese.

A. Classic novels of Ming and Ching such as Hung Lou Meng and Shui Hu Chuan.

B. The May Fourth period, 1919-1949, works by Lu Hsun and Pa Chin.

C. Taiwan fiction.

141. China in Transition through Films
(4) PAI

Prerequisite: upper-division standing or consent of instructor.

A study of social and political changes in China since 1949 through films. Focus on the political campaigns: the Anti-rightist Movement in 1957 and the Great Cultural Revolution 1966-1976, and their impact on the Chinese people. Taught in English.

142. A Sense of Place in Chinese Literature
(4) EGAN

Prerequisite: upper-division standing or consent of instructor.

The significance of landscape in Chinese literature, ancient and modern. Readings (in English) on particular places (e.g., Great Wall) as well as on general types of physical settings (mountains, gardens). Chinese paintings and relevant philosophical works also discussed.

144. The Aesthetics of Calligraphy, Painting, and Poetry
(4) EGAN

Prerequisite: upper-division standing or consent of instructor.

Examines the shared values that underlie the three premier arts of traditional Chinese culture. Attention to issues that theorists and practitioners of each art have faced: uses of the past, representation of the world, and the moral basis of aesthetic expression. Taught in English.

145. Mythology and the Supernatural in Chinese Literature
(4) EGAN

Prerequisite: upper-division standing or consent of instructor.

A study of the theme of the strange (kuai) in Chinese prose and poetry. Readings from early myths, ghost stories, demonic poetry, and a humorous folk epic about monsters. Attention to Chinese notions of the afterlife and aberration. Taught in English.

166B. Taoist Traditions of China
(4) POWELL

Prerequisites: upper-division standing or consent of instructor; same course as Religious Studies 166B.

A study of the classical sources of Taoism, followed by a consideration of the varieties of religious practice which developed from those sources.

166E. The Flowering of Chinese Buddhism
(4) POWELL

Prerequisites: Religious Studies 164B or consent of instructor. Any lower-division Religous Studies course or consent of instructor.

A study of the distinctively Chinese forms of Buddhism which emerged in the sixth and seventh centuries A.D. Emphasis will be on the Hua-yen, T'ien-t'ai, and Ch'an traditions, and on the features of those traditions which distinguish them most clearly from Indian Buddhism.

180F. Chinese Archaeology
(4) PAI

Prerequisites: upper-division standing or consent of instructor. Same course as History 180F.

An overview of Chinese archaeology from the Paleolithic to the unification of China (221 BC). Emphasis is on the discussion of various aspects of Early China such as art, ritual, writing, politics, economy and their inter-relationships.

197. Senior Honors Project
(4-8) STAFF

Prerequisites: open to senior majors only; consent of instructor. Students must have a 3.0 overall grade-point average and a 3.5 grade-point average in the major. May be repeated for a total of 12 units.

An independent study course (1 to 3 quarters) directed by a faculty member with a carefully chosen topic and bibliography which will result in a documented project or a senior thesis.

198. Readings in Chinese
(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Chinese. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May be repeated up to 12 units.

199. Independent Studies in Chinese
(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Chinese. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual investigations in literary fields.

GRADUATE COURSES

201. Readings in Selected Texts
(2-4) STAFF

Prerequisites: ability to read Chinese at graduate level; consent of instructor. Normally graduate status is required.

Course will center on readings of Chinese texts; type and period to depend on needs of students and wishes of instructor. Research methods to be taught as appropriate.

230. Chinese Theories of Literature
(4) TU, KUO-CHING
Survey of the major text of the Chinese critical tradition beginning with the "Major Preface" to the Book of Songs (first century ACE) through the important Ming (1368-1644), and Ch'ing (1644-1911) critics. Readings are in Chinese and English, Lectures and discussions in English.

501. Apprentice Teaching
(2-4) STAFF
Prerequisites: graduate standing and consent of instructor. Employment in this department as teaching assistant or linguistic informant. These units do not count toward the graduate degree.
This course consists of supervised teaching practice in Chinese language.

596. Directed Reading and Research
(2-4) STAFF
Prerequisites: graduate standing. Letter grade; minimum of 2 units per quarter.
Individual tutorial. A written proposal for each tutorial must be approved by department chair and filed with Graduate Division.

597. Preparation for Comprehensive Examinations.
(1-6) STAFF
Prerequisite: consent of graduate advisor. No unit credit allowed toward degree.
Study for master's comprehensive examinations and Ph.D. examinations.

598. Master's Thesis Research and Preparation
(1-6) STAFF
Prerequisites: graduate standing and consent of instructor. Maximum of 12 units total. No unit credit allowed toward master's degree.
Instructor should be chair of the student's thesis committee.

East Asian Cultural Studies Courses

3. Introduction to Asian Religious Traditions
(4) POWELL
Same course as Religious Studies 3.
An introduction to the basic texts, institutions, and practices of the religious traditions of South Asia and East Asia.

110A-B. Pro-seminar in Critical Studies on East Asia
(4-4) STAFF
Prerequisite: students should have satisfied lower-division preparation for Chinese, Japanese, or asian studies major.
Critical analysis of the state of scholarship in various fields on China and Japan.

175. Sacred Geography in China and Japan
(4) GRAPARD, POWELL
Same course as Religious Studies 175.
A consideration of the cultural and cognitive dimensions of East Asian sacred geographies.

210A-B. Pro-seminar in Critical Studies on East Asia
(4-4) STAFF
Prerequisite: students should have satisfied lower-division preparation for Chinese, Japanese, or asian studies major.
Critical analysis of the state of scholarship in various fields on China and Japan.

Related Courses in Other Departments

Arabic: See Religious Studies 10A-F.
Chinese: See Religious Studies 166F-H.
Sanskrit: See Religious Studies 159A-L.
Persian: See Religious Studies 157A-B-C.

Japanese Courses

LOWER DIVISION

1. Elementary Japanese
(5) STAFF
The beginning course in Japanese. The student acquires a basic knowledge of the grammar, a limited general vocabulary, correct pronunciation, and an ability to read and understand simple texts. Weekly laboratory assignments support and enhance classroom learning.

1S. Basic Conversational Japanese
(4) STAFF
Offered in summer only, and recommended for people planning to enroll in the elementary Japanese course series.
Emphasizes basic listening and speaking skills, practice in Hiragana (one of the Japanese writing systems); pronunciation, oral practice; basic grammar. Includes laboratory work.

1T. Elementary Technical Japanese
(4) STAFF
Designed for engineering and science students, this course, together with Japanese 2T and 3T, parallels Elementary Japanese and prepares students for an intensive summer course to complete the basis for subsequent study in Japan and for instruction in the reading of technical material.

2. Elementary Japanese
(5) STAFF
Prerequisite: Japanese 1 or equivalent.
Continuation of Japanese 1.

2A. The System of Kanji
(1) STAFF
Prerequisites: Japanese 1 and consent of instructor.
First quarter of a two-quarter course (the second being Japanese 3A) running concurrently with Japanese 2 and 3 for the purpose of facilitating the learning of Kanji, or Chinese characters used in the Japanese script, by elucidating the principles of Kanji structure and tracing the graphic history of representative characters.

2T. Elementary Technical Japanese
(4) STAFF
Prerequisite: Japanese 1T or equivalent.
Continuation of Japanese 1T.

3. Elementary Japanese
(5) STAFF
Prerequisite: Japanese 2 or equivalent.
Continuation of Japanese 2.

3S. Intensive Practice in Spoken and Written Japanese
(4) STAFF
Prerequisite: Japanese 3 or equivalent; this course does not substitute for any course in the Intermediate Japanese series.
Designed for students who have completed Elementary Japanese to improve communicative skills and to ease the transition to intermediate level. Grammar, Kanji review, and laboratory work are stressed. Offered in summer only.

3T. Elementary Technical Japanese
(4) STAFF
Prerequisite: Japanese 2T or equivalent.
Continuation of Japanese 2T.

4. Intermediate Japanese
(5) STAFF
Prerequisite: Japanese 3 or equivalent.
Continuation of Japanese 3.

5. Intermediate Japanese
(5) STAFF
Prerequisite: Japanese 4 or equivalent.
Continuation of Japanese 4.

6. Intermediate Japanese
(5) STAFF
Prerequisite: Japanese 5 or equivalent.
Continuation of Japanese 5.

7. Introduction to Business Japanese
(4) STAFF
Prerequisite: Japanese 5 or equivalent. This course is designed to be taken concurrently with, or instead of, Japanese 6.
Introduction to business vocabulary and writing of correspondence. Japanese business customs and practices are discussed. First two hours for listening and speaking and the next two for reading and writing.

8A-B-C. Japanese Conversation
(2-2-2) STAFF
Prerequisite: Japanese 3 or equivalent.
The course is designed to increase facility and naturalness of delivery in simple dialogue.

9. Japanese Composition
(2) STAFF
Prerequisite: Japanese 5 or equivalent.
This course is intended to enhance an active command of basic vocabulary and grammar through composition exercises that supplement the content of the intermediate language courses.

22. Religious Narratives and Paintings of Japan
(4) GRAPARD
Same course as Religious Studies 22.
A survey and cultural analysis of the painted scrolls and texts related to historical records of religious institutions in medieval and premodern japan. Taught in English.

32. Introduction to Japan
(4) STAFF
A topical survey of modern Japan covering material on the society and the culture. This course is intended to satisfy casual interest in Japan as well as to impart a basic knowledge relative to specialized upper-division courses on Japan given in various departments.

UPPER DIVISION

101. The Structure of Classical Japanese
(4) STAFF
Prerequisite: Japanese 5 or equivalent or consent of instructor.
An introduction to the classical language through selections from Heian period literature.

110A. Survey of Japanese Literature: Classical
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.
A survey of japanese literature focusing on the classical period from 800 to 1200. Readings, lectures, and discussions in English.

110B. Survey of Japanese Literature: Medieval
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.
A survey of Japanese literature from 1200 to 1600. Readings, lectures, and discussions in English.

110C. Survey of Japanese Literature: Early Modern
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.
A survey of Japanese literature from the 17th to the 19th centuries. Readings, lectures, and discussions in English.

111. Topics in Traditional Japanese Literature
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.
An exploration of selected themes and concerns expressed in Japanese literature before the twentieth century. Taught in English.

112. Survey of Modern Japanese Literature
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.
A survey of Japanese literature after contact with

the West, from 1868 to the present. Readings, lectures, and discussions in English.

115. Topics in Modern Japanese Literature

(4) STAFF

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

Exploration of key issues in modern Japanese literature. The course is organized around such topics as representations of the "self," women writers in modern Japan, and literature in the Japanese state. Taught in English.

116. Post-War Japanese Literature

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

The human cost of post-war recovery and modernization as expressed in Japanese literature. Readings are organized around the following issues: 1) the effects of defeat, 2) the search for a sense of self and nationhood, and 3) role of women in modern Japanese society. Taught in English.

117. Images of Japan: The Ideology of Representation

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Using literary and non-literary sources (augmented by visual materials) the course examines how images of Japan are constructed from the following perspectives: (1) western orientalist depictions, (2) Japanese claims of uniqueness, and (3) images for export. Taught in English.

119. Shugendo: Japanese Mountain Religion

(4) GRAPARD

Same course as Religious Studies 120.

Historical study of texts and practices of Japanese mountain ascetics (Yamabushi), and of their role in the formation of Japanese culture, from 700 to present.

120A-B-C. Readings and Composition in Modern Japanese

(4-4-4) STAFF

Prerequisite: Japanese 6 or equivalent.

An introduction to informal, popular, and relatively easy expository styles of writing, with emphasis on assimilation of grammatical forms and expansion of vocabulary through reading, writing, and talking.

125. Modern Business Japanese

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Learning of everyday business language in contracts, finances, trade, and law. Practical approach in business jargon and oral/aural proficiency is stressed.

130A-B-C. Advanced Readings in Modern Japanese

(4-4-4) STAFF

Prerequisite: Japanese 120C or equivalent.

An exploration of expository, journalistic, and literary styles of writing.

135. Advanced Special Readings

(2-4) STAFF

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 12 units.

The reading material, which may be on almost any subject and changes each time the course is given, is selected for the problems it presents, either because of an unusual style (dialectical, archaistic, or figurative), or because of a specialized vocabulary such as religious, philosophical, or scientific.

140. Topics in Japanese Culture

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Exploration and definition through reading in English of interesting themes that have persisted in Japanese culture to the present.

149. Forms of Japanese Drama

(4) SALTZMAN-LI

An overview of the major forms of Japanese drama examining their distinctive features and the ways in which they relate to one another and to general features of Japanese literature.

150. Survey of Modern Japanese Society

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Understanding Japanese society and culture through reading and films. The course will introduce the set of Japanese values, habits, and heritage. The discussion centers around the conflict between traditional and modern patterns of thoughts and philosophy in human relations and social organizations. Taught in English.

163. Images of Japan: The Ideology of Representation

(4) GRAPARD

Same course as Religious Studies 163.

Analysis of how Japanese culture represented itself to itself: religion, art, literature, and maps.

197. Senior Honors Project

(4) STAFF

Prerequisites: open to senior majors only, consent of instructor. Student must have a 3.0 overall grade-point average and a 3.5 in the major. May be repeated for a maximum of 8 units.

An independent study course (one to three quarters) directed by a faculty member with a carefully chosen topic and bibliography which will result in a documented project or a senior thesis.

198. Readings in Japanese

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Japanese. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May be repeated up to 12 units.

Guided reading in Japanese on a subject not covered in the regularly offered courses.

199. Independent Studies in Japanese

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Japanese. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual investigations in literary fields.

GRADUATE COURSES

201. Readings in Selected Texts

(2-4) STAFF

Prerequisites: ability to read Japanese at graduate level; consent of instructor. Normally graduate status is required.

Course will center on readings of Japanese texts; type and period to depend on needs of students and wishes of instructor. Research methods to be taught as appropriate.

217. Images of Japan: The Ideology of Representation

(4) STAFF

Prerequisite: graduate standing

Using literary and nonliterary sources, the course examines how images of Japan are constructed from the following perspectives: (1) western orientalist depictions; (2) Japanese claims of uniqueness; and (3) images for export. Taught in English.

501. Apprentice Teaching

(2-4) STAFF

Prerequisites: graduate standing and consent of instructor. Employment in this department as teaching assistant or linguistic informant. These units do not count toward the graduate degree.

This course consists of supervised teaching practice in Japanese language.

596. Directed Reading and Research

(2-4) STAFF

Prerequisites: graduate standing. Letter grade; minimum of 2 units per quarter.

Individual tutorial. A written proposal for each tutorial must be approved by department chair and filed with Graduate Division.

597. Preparation for Comprehensive Examinations

(1-6) STAFF

Prerequisite: consent of graduate advisor. No unit credit allowed toward degree.

Study for master's comprehensive examinations and Ph.D. examinations.

598. Master's Thesis Research and Preparation

(1-6) STAFF

Prerequisite: graduate standing. S/U grading. No unit credit allowed toward degree.

For research underlying the thesis, writing the thesis. Instructor should be the chair of the student's thesis committee.

Korean Courses

LOWER DIVISION

1. Elementary Korean

(5) STAFF

Not open for credit to students who have taken Asian Studies 1.

The beginning course in Korean. The student acquires a basic knowledge of the grammar, a limited general vocabulary, correct punctuation, and an ability to read and understand simple texts. Weekly laboratory assignments support and enhance classroom learning.

2. Elementary Korean

(5) STAFF

Prerequisites: Korean 1 or Asian Studies 1 or equivalent. Not open for credit to students who have taken Asian Studies 2.

Continuation of Korean 1.

3. Elementary Korean

(5) STAFF

Prerequisites: Korean 2 or Asian Studies 2 or equivalent. Not open for credit to students who have taken Asian Studies 3.

Continuation of Korean 2.

4. Intermediate Modern Korean

(5) STAFF

Prerequisites: Korean 3 or Asian Studies 3. Not open for credit to students who have taken Asian Studies 4.

Continuation of Asian Studies 3.

5. Intermediate Modern Korean

(5) STAFF

Prerequisites: Korean 4 or Asian Studies 4. Not open for credit to students who have taken Asian Studies 5.

Continuation of Asian Studies 4.

6. Intermediate Modern Korean

(5) STAFF

Prerequisites: Korean 5 or Asian Studies 5. Not open for credit to students who have taken Asian Studies 6.

Continuation of Asian Studies 5.

30A-B-C. Korean for Native Speakers

(4) STAFF

Reading and speaking of modern Korean writings for students with a basic native ability.

80G. Introduction to East Asian Archaeology

(4) PAI

Prerequisites: same course as History 80.

The archaeology of China, Korea, and Japan from prehistory to the first states. Excavated remains of neolithic villages, royal tombs, religious monuments, art and artifacts' traditions of pottery and bronze-making are presented. It focuses on cross-cultural comparisons of the rise of civilizations and states.

80K. Traditional Korean Civilization

(4) PAI

Prerequisites: same course as History 80K.

Explores the various features of Korean civilization: geography, history, economy, demography, institutions, society, religious and intellectual developments, and aesthetic achievements. These aspects are also compared to broader historical and societal patterns of East Asian civilizations of China and Japan.

83. Inner Asian Civilizations
(4) PAI
Prerequisites: same course as History 83.

The history, culture, and society of the nomadic peoples of Inner Asia (Soviet Union, Tibet, Afghanistan, and Mongolia). Topics include the rise of nomadism, the Silk Road, warfare, trade, and the interaction between Steppe empires and sedentary civilizations of Asia.

UPPER DIVISION

120. Korean Culture and Society
(4) PAI
Prerequisite: Anthropology 2. Same course as Anthropology 134H.

Study of late traditional and contemporary Korea. Discussion includes socio-economic organization, religion, folk art and literature, culture change and politics of culture.

180D. Korean History and Civilization
(4) PAI
Prerequisites: Asian Studies 80, History 80 or consent of instructor. Same course as History 180D.

The history of Korea from prehistory to the Korean War. Topics include: the development of states and kingship, religious ideologies of Buddhism and Confucianism, cultural interaction with China, Japan and Steppes' peoples, the Yangban literati, peasant uprisings, the Imperial powers, nationalism, the split into two Koreas.

180E. Korean Art and Archaeology
(4) PAI
Prerequisites: Asian Studies 80, History 80 or consent of instructor. Same course as History 180E.

Selected archaeological and architectural works of art that demonstrate Korean technological and artistic achievements are examined. Analyzes technology and construction, relationship of art to architecture, that reflect developments in society and religion. Surveys Korean arts' traditions in ceramics, Buddhist sculpture, paintings, metallurgy, and woodwork.

Economics

Department of Economics,
Division of Social Sciences,
North Hall 2127;
Telephone (805) 893-3670
Department Chair: Perry Shapiro

Faculty

Alec P. Alexander, Ph.D., UC Berkeley, Professor Emeritus

Mortimer Andron, Ph.D., University of Illinois, Professor Emeritus

Henning Bohn, Ph.D., Stanford University, Associate Professor *(macroeconomics, fiscal and monetary policy, international economics)*

Stephen Bronars, Ph.D., University of Chicago, Associate Professor *(labor economics)*

Robert L. Carrington-Crouch, Ph.D., University of Essex, Professor *(economic theory)*

William S. Comanor, Ph.D., Harvard University, Professor *(industrial organization, applied microeconomics)*

Robert T. Deacon, Ph.D., University of Washington, Professor *(natural resource economics, public finance)*

Stephen J. DeCanio, Ph.D., Massachusetts Institute of Technology, Professor *(economic history, econometrics and statistics, applied microeconomics)*

H. E. Frech, III, Ph.D., UC Los Angeles, Professor *(industrial organization, economic theory, health economics, political economy)*

Rodney J. Garratt, Ph.D., Cornell University, Assistant Professor *(economic theory, monetary theory, public finance)*

Jeffrey Grogger, Ph.D., UC San Diego, Assistant Professor *(labor economics, econometrics)*

J. Fred Halterman, Ph.D., UC Berkeley, Professor Emeritus

M. Bruce Johnson, Ph.D., Northwestern University, Professor *(microeconomics, industrial organization)*

William F. Kennedy, Ph.D., University of Wisconsin, Professor Emeritus

Charles D. Kolstad, Ph.D., Stanford University, Professor *(environmental and resource energy economics, industrial organization, microeconomics)*

Clement G. Krouse, Ph.D., UC Los Angeles, Professor *(industrial organization, capital theory)*

John Marshall, Ph.D., Massachusetts Institute of Technology, Professor *(economic theory, economics of uncertainty)*

Walter J. Mead, Ph.D., University of Oregon, Professor Emeritus

Rajnish Mehra, Ph.D., Carnegie-Mellon University, Professor *(capital markets, corporate finance, international finance)*

Lloyd J. Mercer, Ph.D., University of Washington, Professor *(economic history, water resource economics, microeconomic theory)*

W. Douglas Morgan, Ph.D., UC Berkeley, Professor *(public finance, applied microeconomics, water resource economics)*

Maxwell C. Pellish, M.A., UC Santa Barbara, Lecturer Emeritus

Llad Phillips, Ph.D., Harvard University, Professor *(labor economics, econometrics, economics of criminal justice)*

John E. Pippenger, Ph.D., UC Los Angeles, Professor *(international finance, monetary theory, macroeconomics)*

Cheng-Zhong Qin, Ph.D., University of Iowa, Assistant Professor *(microeconomics, game theory)*

Jati K. Sengupta, Ph.D., Iowa State University, Professor *(econometrics, operations research, economic development)*

Perry Shapiro, Ph.D., UC Berkeley, Professor *(microeconomic theory, public economics)*

Jon Sonstelie, Ph.D., Northwestern University, Professor *(urban economics, public finance)*

Douglas Steigerwald, Ph.D., UC Berkeley, Assistant Professor *(econometrics, macroeconomics)*

Charles Stuart, Ph.D., Lunds Universitet, Professor *(public finance, economic theory, law and economics)*

Linda Tesar, Ph.D., University of Rochester, Assistant Professor *(international finance, international trade, macroeconomics)*

Stephen Trejo, Ph.D., University of Chicago, Assistant Professor *(labor economics)*

Harold L. Votey, Jr., Ph.D., UC Berkeley, Professor Emeritus

Affiliated Faculty

Luc Anselin, Ph.D. (Geography)

The undergraduate programs in economics, business economics, and economics/mathematics are designed to serve several objectives. Completed in combination with other courses in the College of Letters and Science, the majors provide the opportunity for general cultural and intellectual development. They are particularly useful as preparation for professions such as law, journalism, and accounting. The economics and economics/mathematics majors provide a solid foundation for graduate study in economics or administration, and the business economics major is a good basis for graduate work in administration and management.

Academic counseling is available for undergraduates from the undergraduate adviser and peer advisers, and for graduate students from the assistant for graduate affairs. Undergraduate Study in Economics, published annually for majors and prospective majors, addresses questions most frequently asked by students in each major offered by the Department of Economics. Brochures describing the M.A. and Ph.D. programs in economics, and the M.A. option in business economics, are also available.

The Department of Economics encourages majors to participate in the Education Abroad Program (EAP) and the University of California, UCSB Washington Center option. In most cases, EAP courses can be substituted for equivalent offerings of the Department of Economics to fulfill major requirements.

After completing specific prerequisites, students with a bachelor's degree in business economics, economics, and economics/mathematics are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—Economics

Before admission to the economics or business economics major, students must complete all economics preparation for the major courses with a grade-point average of 2.7 or above; these courses may not be taken on a passed/not passed basis. Students may declare a pre-economics/business economics major after they have completed at least three courses required for the pre-major with at least a 2.7 grade-point average in all pre-major courses completed at that time. Students who declare the pre-major are responsible for satisfying degree requirements in effect at the time they declare the major. Pre-major status does not, however, guarantee admission to full major status. Students must maintain a continuous 2.0 grade-point average in all major courses (preparation and upper-division) while attending the University of California. At its discretion, the department may discontinue students from the major who do not maintain the continuous 2.0 grade-point average in all pre-major and major courses. When preparation requirements are satisfied, students must complete a change of major petition, available in the Economics Undergraduate Office.

Preparation for the major. To qualify for admission into the economics major, students must complete Economics 1, 2, 3A and 3B or 3A and 7, and 5 (or PSTAT 5E) with a grade-point average of 2.7 or above. In addition, students must complete Math 3A and either Math 3B or English 109B or 109C with a grade of C or above. Upper-division students transferring to the major may take Economics 109 rather than 1 and 2. See the economics undergraduate adviser for further details.

Upper-division major. Thirty-six upper-division units in economics, including Economics 100A or 104A, 100B or 104B, and 101 or 105, are required. Students may choose the remaining 24 units from upper-division economics courses with at least four of the six upper-division electives selected from the following list: Economics 102A-B, 103, 107, 108, 111, 112A-B, 113A-B, 114, 115, 116, 117A-B, 119, 120, 122, 128, 130, 133, 135, 140A-B, 150, 151, 155, 160, 175, 180, 181. The following restrictions apply to the major: Economics 109 and 110 may not be used to fulfill upper-division requirements; credit is not allowed for both Economics 100A and 104A, 100B and 104B, or 101 and 105. A maximum of 12 units of Economics 199 will apply to the upper-division major.

Bachelor of Arts—Business Economics

Preparation for the major. Preparation for the major course and grade-point average requirements are identical to those required for the economics major outlined above.

Upper-division major. Forty upper-division units in business economics, including Economics 100A or 104A, 100B or 104B, 101 or 105 and 134A are required. Two upper-division electives must be chosen from the following: Economics 106, 116, 117A-B, 119, 121, 130, 134B, 135, 151, 155, 175, 180, 181, 183, 184, 185. Additionally, four upper-division economics electives must be completed including at least two from the following: Economics 106, 116, 117A-B, 118, 119, 121, 130, 132, 134B, 135, 136A-B-C, 137, 138A-B-C, 139,151, 155, 172, 175, 180, 181, 183, 184, 185. The same course(s) may not be used to fulfill requirements in both sections listed above. The following restrictions apply to the major: Economics 109 and 110 may not be used to fulfill upper-division requirements; credit is not allowed for both Economics 100A and 104A, 100B and 104B, or 101 and 105. A maximum of 12 units of Economics 199 will apply to the upper-division major.

Concentration in Accounting

Completion of the concentration is voluntary, and will be acknowledged by the Department of Economics, upon request. It will not appear, however, on the student's official transcript or diploma. The degree is listed as a bachelor of arts in business economics.

Preparation for the major. See the preparation for the major requirements above for the business economics major. Economics 3A-B, 7, and 118 are prerequisites to the upper-division accounting courses.

Upper-division major. Forty-eight upper-division units in economics, including the following required courses: Economics 100A or 104A, 100B or 104B, 101 or 105 and 134A. Two upper-division economics electives must be chosen from the following: Economics 106, 116, 117A-B, 119, 121, 130, 134B, 135, 151, 155, 175, 180, 181, 183, 184, 185. In addition, six upper-division electives must be taken from the following list: Economics 118, 132, 136A-B-C, 137, 138A-B-C, 139, 172, 186, 195H.

Bachelor of Arts— Economics/ Mathematics

Preparation for the major. Before admission to the economics/mathematics major, students must complete all preparation for the major courses with a grade-point average of 2.5 or above; these courses may not be taken on a passed/not passed basis. The following courses are required: Economics 1 and 2 or 109; Mathematics 3A-B-C, 3AM-BM-CM, 3A-7B-7C, or equivalent; Mathematics 5A-B-C, 10A-B-C, or equivalent; Mathematics 8 and PSTAT 5E. Upper-division students transferring to the major may substitute Economics 109 for Economics 1 and 2. *Note: Physics 1 or 6A is prerequisite to Mathematics 5A-B.*

Upper-division major. Forty upper-division units are required, including the following courses: Economics 104A-B, Economics 105, Mathematics 108A-B, and Mathematics 118A. Students must also complete Economics 140A-B and 8 upper-division economics elective units. Economics 109 and 110 cannot be used to fulfill the upper-division requirements. Students should consult closely with their adviser in the Department of Economics or Mathematics to assure an appropriate program of study.

Senior Honors Program

The senior honors program in the Department of Economics is designed to encourage seniors to excel in economics and provides a means of recognizing outstanding scholastic achievement. Students who have completed at least 105 quarter units, with a minimum grade-point average of 3.5, may apply for the program. Students who complete the senior honors project will be eligible for Distinction in the Major status at graduation. Details are available from the undergraduate adviser in North Hall 2121.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Economics

Admission

An undergraduate major in economics is not required for admission to the graduate program. However, the department does require that specific courses, particularly economic theory, be passed with distinction. At least two quarters of calculus are required, and one year is recommended. With departmental consent, students with inadequate preparation in economics or mathematics may be admitted, but they will be required to remedy any deficiencies by taking appropriate undergraduate courses.

Graduate Record Examination scores are required of all M.A. applicants. Foreign applicants must take the Test of English as a Foreign Language (TOEFL) unless they have completed a bachelor's or master's degree in the U.S. or speak English as a native language.

Degree Requirements

The M.A. may be obtained under either of the two plans described below. There is no language requirement for the M.A. degree. Well-prepared students can obtain the M.A. in one year. Plan A is designed for students who wish specifically to acquire the M.A. degree; Plan B is designed for students in the Ph.D. program who wish to acquire the M.A. degree.

Plan A requires 36 units of coursework, distributed as follows: 20 units—core courses (Economics 205A-B, 207, 208, and 247); 8 units—elective field courses; 8 units—electives. A comprehensive oral examination in economic theory, econometrics, and the elective field is also required.

Plan B requires 36 units of coursework, as follows: Economics 204A-B, 210A-B-C-D, 241A-B-C. A comprehensive oral examination in microeconomic theory and econometrics is required.

Master of Arts—Emphasis in Business Economics

The business economics emphasis is designed to prepare students for management and analyst positions in business firms as well as in governmental or nonprofit organizations. The fields of industrial organization, economic and business forecasting, and finance are singled out for detailed treatment. The core program, described below, provides a full complement of instruction to students with no prior training in business and little prior training in economics.

Admission

Prerequisites to admission to the business economics emphasis are two quarters (or one semester) of college-level calculus, intermediate-level courses in microeconomic and macroeconomic theory, and at least one basic statistics course. With the consent of the department, students with deficient backgrounds may be admitted. They will, however, be required to remedy any deficiencies by taking appropriate undergraduate classes. Graduate Record Examination scores are required of all M.A. applicants. Foreign applicants must take the Test of English as a Foreign Language (TOEFL) unless they have completed a bachelor's or master's degree in the U.S. or speak English as a native language.

Degree Requirements

The four elements of the M.A. business economics emphasis are: (1) the Core, nine courses which concentrate on economic theory, econometrics, and accounting practice; (2) the

Fields, seven courses which provide specialized knowledge of industrial organization, economic forecasting, business history, and finance; (3) the Practicum, a two-quarter seminar applying what has been learned in the core and the advanced fields to real business problems; and (4) the Electives, a minimum of four courses that offer the student an opportunity to pursue and develop areas of personal interest.

A grade-point average of 3.0 and satisfactory completion of practicum research papers are required for graduation.

Doctor of Philosophy—Economics

Admission

An undergraduate major in economics is not required, but the department does require that specific courses, particularly economic theory, be passed with distinction. Prospective students are advised to take as much mathematics as possible, particularly calculus and matrix algebra. Students with inadequate preparation may be admitted, but they will be required to remedy any deficiencies by taking appropriate undergraduate courses.

Graduate Record Examination scores are required of all applicants. Foreign applicants must take the Test of English as a Foreign Language (TOEFL) unless they have completed a bachelor's or master's degree in the U.S. or speak English as a native language.

Degree Requirements

Ph.D. students normally take one year of coursework to meet the macroeconomic theory requirement and to prepare for the microeconomic theory and quantitative exams. During the second year, students take courses to meet the requirements.

After successful completion of first-year coursework and required examinations, students are eligible to receive an M.A. in economics. During the third year, the student is expected to submit a written dissertation proposal and to defend that proposal orally.

Advancement to candidacy depends on successful completion of written comprehensive examinations and an oral defense of the dissertation proposal. The student who enters the program well prepared and devotes full time to graduate study of economics can finish the Ph.D. coursework and dissertation in four to five years. There is no language requirement for the degree.

Economics Courses

LOWER DIVISION

1. Principles of Economics—Micro

(4) CARRINGTON-CROUCH

Prerequisite: not open for credit to students who have completed Economics 109.

An introduction to microeconomic analysis. Economic theory related to demand, production, competitive and noncompetitive product markets, input markets, and welfare. Applications of microeconomic theory including its use in evaluating and forming public policy.

2. Principles of Economics—Macro

(4) CARRINGTON-CROUCH, MORGAN

Prerequisite: Economics 1. Not open for credit to students who have completed Economics 109.

An introduction to macroeconomic analysis. Analysis of income, employment, and the price level. Applications of macroeconomic theory including its use in evaluating and forming public policy.

3A-B. Financial Accounting

(4-4) STAFF

Prerequisite: Economics 3A is a prerequisite for 3B.

Introduction to financial accounting principles, methods and systems, measuring and reporting financial information, and financial statement analysis and interpretation.

5. Statistics with Economic and Business Applications

(5) STAFF

Prerequisite: Economics 1 and 2.

An introduction to the analysis of economic data, elementary statistical methods, and use of the computer. Topics will include basic probability theory, statistical inference and hypothesis testing, and regression. Two lectures, a two-hour seminar, and a computer lab weekly. (Not offered 1992-93; see Probability and Statistics 5E)

7. Accounting and Economics

(4) STAFF

Prerequisites: Economics 1 and 3A; Psychology 1 strongly recommended.

This course deals with the accounting measurement of microeconomic concepts. Economic concepts are examined and accounting measures of these concepts for business decision making are developed. Conceptual accounting measurements and methods are compared with professional accounting practice measures.

UPPER DIVISION

100A. Microeconomic Theory and Policy

(4) STAFF

Prerequisites: Economics 1 and 2 or 109 and Economics 5. Credit not given for both Economics 100A and 104A.

Economic theory relating to demand, production, and competitive product markets with emphasis on applications of theory.

100B. Microeconomic Theory and Policy

(4) STAFF

Prerequisite: Economics 100A. Credit not given for both Economics 100B and 104B.

Economic theory relating to imperfectly competitive product markets, input markets, and welfare, with emphasis on applications of theory. Basic capital theory will be covered.

101. Static Macroeconomics and Policy

(4) STAFF

Prerequisite: Economics 100A. Economics 100B strongly recommended. Credit not given for both Economics 101 and 105.

Contemporary analysis of income, employment, and price level and public policy using a static general equilibrium framework with emphasis on applications of theory.

102A. Advanced Topics in Microeconomics

(4) STAFF

Prerequisite: Economics 100B or 104B.

Elements of linear programming, input-output analysis, and game theory.

103. History of Economic Thought

(4) STAFF

Prerequisites: Economics 1 and 2, or 109.

Analysis of the development of economic theory from the middle ages to the late nineteenth century.

104A. Microeconomic Theory

(4) STAFF

Prerequisites: Economics 1 and 2 or 109, plus Mathematics 3A and 3B; also Mathematics 3C or consent of instructor. Credit not given for both Economics 104A and 100A.

Economic theory relating to demand, production, and competitive product markets, using techniques from the calculus.

104B. Microeconomic Theory

(4) STAFF

Prerequisite: Economics 104A. Credit not given for both Economics 104B and 100B.

Economic theory relating to imperfectly competitive product markets, input markets, and welfare, using techniques from the calculus. Basic capital theory will be covered.

105. Static Macroeconomics

(4) STAFF

Prerequisites: Economics 1 and 2 or 109, plus Mathematics 3A and 3B; also Mathematics 3C or consent of instructor. Credit not given for both Economics 105 and 101.

Contemporary analysis of income, employment, and price level and public policy using a static general equilibrium framework with emphasis on pure theory and use of techniques from the calculus.

106. Managerial Economics

(4) STAFF

Prerequisites: Mathematics 3A-B or 7A-B, and Economics 100A-B or 104A-B.

Economic principles will be applied to practical decision-making situations. Methods of price and output determination, capital budgeting, and choices under uncertainty. Methods of economic analysis and their application will be emphasized.

107. Comparative Economic Systems

(4) FRECH

Prerequisite: Economics 100B or 104B.

Centrally planned socialism, market socialism, capitalism, and anarchy will be compared. Information needs, prices as signals, the relation between property rights and decentralization, and Marxian value theory will be examined.

108. The Soviet Economy

(4) STAFF

Prerequisites: Economics 100A-B or 104A-B.

This course will examine current output and multiperiod plans, non-price signals, price determination, turnover tax, incentives, property rights, bargaining, agriculture, the role of money, the informal economy, and proposals for reform.

109. Introduction to Economics

(4) STAFF

Prerequisites: not open to students who have taken Economics 1 and 2. Open to upper-division students only. 2 units of credit will be allowed for Economics 109 if credit has already been given for Economics 1 or 2 or the equivalent. Economics majors are advised to take Economics 1 and 2 for a more thorough background for the major. Does not count as an upper-division major elective.

Intensive study of economic principles.

110. Contemporary Economic Problems

(4) STAFF

Intended for non-majors. Does not count as upper-division major elective.

Current social-economic problems will be analyzed, each by a qualified staff member. Topics may include the following; the economics of poverty, discrimination, war, monopoly, the stock market, gold, inflation-deflation, economic growth and alternative economic systems.

111. Economic History of Ancient Civilization

(4) MERCER

Prerequisites: Economics 1 and 2; or 109

A survey of the economies of the ancient Near East, Egypt, Greece, and Rome with emphasis on important issues in their economic history.

112A. European Economic History to 1850

(4) MERCER

Prerequisites: Economics 1 and 2; or 109.

Analysis of the economic development of Europe from the Middle Ages through the English Industrial Revolution.

112B. European Economic History Since 1850

(4) MERCER

Prerequisites: Economics 1 and 2; or 109.

Analysis of the economic development of Europe since the English Industrial Revolution.

113A. Economic History of the United States to 1900

(4) MERCER, DECANIO

Prerequisites: Economics 1 and 2 or 109.

Key issues and episodes in American economic history, such as the sources of economic growth, slavery and the nineteenth-century southern economy, Populism and the rise of regulation, and macroeconomic history.

113B. Twentieth-Century United States Economic History

(4) DECANIO, MERCER

Prerequisites: Economics 1 and 2; or 109.

A survey of United States economic development in the twentieth century with emphasis on issues related to the growth, instability, and distribution of income. The impact of public policy on economic growth, instability, and income distribution will be an important theme of the course.

114. Economic Development

(4) VOTEY

Prerequisites: Economics 1 and 2; or 109.

Applications of economic theory to the problems of developing nations.

115. Environmental Economics

(4) STAFF

Prerequisite: Economics 1 or 109.

Economic analysis of environmental decision making. Determination of the optimum level of pollution. Examination of the concept of externalities, estimation of social versus private costs and benefits, common property resources, welfare theory, and production theory applied to problems of pollution.

116. Organization of Industry

(4) KROUSE, COMANOR

Prerequisite: Economics 100B or 104B.

Analysis of competition, monopolistic competition, oligopoly, and monopoly theories and practices.

117A. Law and Economics I

(4) JOHNSON

Prerequisite: Economics 100B or 104B.

Application of economic analysis to the law. Includes analysis of common law, the constitution and the federal system, and legal processes. Allocation of property rights and external costs and benefits will be examined.

117B. Law and Economics II

(4) JOHNSON

Prerequisites: Economics 100B or 104B, and 117A.

Application of economic analysis to the law. Includes public regulation of the market, regulation of business organizations and financial markets both by common law (torts and contracts), by statute law, and/or regulatory law.

118. Financial Accounting Analysis and Planning

(4) STAFF

Prerequisites: Economics 2, 3A-B, and 5. Not recommended for students who have completed Economics 4.

An economic analysis of a firm's financial accounting data in a macroeconomic environment using microcomputers. Topics include evaluation of short and long-term liquidity, profitability, capital structure and the forecast of earnings and financial position using financial and economic models.

119. Modern United States Business History

(4) MERCER

Prerequisites: Economics 1 and 2; or 109.

A survey of the development and change of business organization in the United States since the Civil War in the context of the growth and development of the economy and changes in society. Particular attention is paid to the relationship between business and government.

120. Urban and Regional Economics

(4) STAFF

Prerequisite: Economics 100B or 104B.

Economic analysis applied to current urban and regional problems.

122. Natural Resource Economics

(4) DEACON

Prerequisite: Economics 100B or 104B.

Microeconomic theory and capital theory applied to problems of conservation and management of natural resources. Analysis of public policy with special emphasis upon energy resources and the energy crisis. Additional topics may include examination of water, fishery, and outdoor recreation resource management.

128. Literature and Economics

(4) DECANIO

Prerequisite: Economics 1.

Issues in history, political economy and social theory as reflected in major works of literature. Content and readings will vary from quarter to quarter. Extensive writing by students will be required.

129. Public Choice

(4) STAFF

Prerequisites: Economics 100A-B.

Public choice theory examines the relationships between markets and competitive political processes in a free society. This course will present a simplified treatment of the major theoretical political-economic models that have been developed in this area of social science.

130. Public Finance

(4) DEACON, MORGAN

Prerequisites: Economics 100B or 104B and Economics 101 or 105.

Fiscal theory and policy. Incidence and effects of taxation, government expenditure programs, and benefit cost analysis.

132. Auditing

(4) STAFF

Prerequisite: Economics 118 and 136A-B-C.

Fundamentals of the audit function including audit planning, internal control review, and communicating audit findings via the audit report. Audit procedures for substantive and compliance testing of balance sheet accounts valuation and income statement analytic review will be covered.

133. Inflation, Unemployment, and Business Cycles: Topics in Macroeconomic Policy

(4) STAFF

Prerequisites: Economics 100A-B and 101 or Economics 104A-B and 105.

Topics may include the Keynesian and Monetarist approaches to fiscal and monetary policy, the Phillips curve, rational expectations and the Lucas critique, equilibrium business cycle theory, rules versus discretion, time inconsistency of optimal policies, inflation and the government budget deficit.

134A. Financial Management

(4) STAFF

Prerequisites: Economics 5 or equivalent, and Economics 100B or 104B.

Discounting of certain future cash flows. Principles of evaluation of investment projects. Demand and supply of investment funds. Risk and the valuation of assets prices. Analysis of a firm's debt and dividend policies; the effect of taxes and inflation on these policies.

134B. Financial Management

(4) STAFF

Prerequisites: Economics 5 or equivalent; Economics 100B or 104B; Economics 134A.

This course is devoted to the testing and application of theories developed in Economics 134A. The specific characteristics and uses of warrants, options, futures, bonds, and stocks are studied. The microcomputer lab may be used for homework projects.

135. Monetary Economics

(4) STAFF

Prerequisite: Economics 101 or 105.

Survey of monetary theory, the banking system and the supply of money, monetary policy, and current issues.

136A-B-C. Intermediate Accounting

(4-4-4) STAFF

Prerequisites: Economics 3A, 3B, and 7 for 136A. Economics 136A fcr 136B and Economics 136A-B for 136C.

An in-depth analysis of recognition, measurement, classification, and valuation issues in financial reporting within the framework of generally accepted accounting principles. Case studies and microcomputer analysis software will be integrated into the course.

137. Managerial Accounting

(4) STAFF

Prerequisites: Economics 3A-B, 7, and 118. Not recommended for students who have completed Economics 3C.

Theory and application of managerial accounting concepts emphasizing the interaction between the accounting process and management decision making for planning and control. Topics include the value of information, cost allocation, product costing, cost estimation, short-run decisions, and capital budgeting.

138A. Fundamentals of Income Taxation

(4) STAFF

Prerequisite: Economics 3A-B.

This foundation course in taxation explores the elements of income taxation and their affects on economic, political, and social decisions at both microeconomic and macroeconomic levels. Emphasis is placed on tax plainning for the individual.

138B. Intermediate Income Taxation

(4) STAFF

Prerequisite: Economics 138A.

This intermediate course extends the material in 138A by exploring alternative business formats such as partnerships, fiduciaries, and corporations, and the relative tax advantages and disadvantages of each. Emphasis is placed on tax planning and incentive effects of taxes.

138C. Advanced Income Taxation

(4) STAFF

Prerequisite: Economics 138A-B.

This course utilizes a seminar format to combine income and transfer tax theory into workable planning mdels using case studies, management role playing, guest speakers, and classroom debate as modes of instruction.

139. Advanced Accounting

(4) STAFF

Prerequisite: Economics 136C.

Accounting for expanding businesses including branches, partially owned subsidiaries, block acquisitions, and outright purchase acquisitions. Both the purchase and pooling of interests consolidation accounting concpets are explored, as well as partnership formation and liquidation, troubled debt restructuring, and foreign currency transactions.

140A. Introduction to Econometrics

(4) STEIGERWALD, GROGGER

Prerequisites: Economics 5; 100A or 104A; 101 or 105; and Mathematics 3A-B. Not open for credit to students who have completed Economics 147.

This course provides an introduction to the theory and practice of econometrics. It begins with estimation and hypothesis testing in linear regression models and then covers violations of the Gauss-Markov assumptions and extensions to nonlinear models.

140B. Introduction to Econometrics

(4) STAFF

Prerequisites: Economics 140A; not open to students who have completed either Economics 141A, B, or C or 147.

This course contains further treatment of nonlinear models. Simultaneous equations, estimation, and time series analysis. It incorporates an applied project to facilitate understanding of the topics.

143. Mathematical Economics

(4) SENGUPTA

Prerequisites: Economics 104B and 105.

Application of mathematics to selected topics in micro- and macroeconomic theory.

150. Labor Economics

(4) FUNKHOUSER, TREJO

Prerequisite: Economics 100B or 104B.

This course analyzes the determinants of labor supply and labor demand, the decision to invest in schooling, on-the-job training, and other forms of human capital, and the impact of trade unions and racial and sexual discrimination in the labor market.

155. Economics of Insurance
(4) STAFF

Prerequisites: Economics 5 or PSTAT 5E; Economics 100B

Topics may include behavior under uncertainty, markets in contingent claims, insurance law and institutions, insurance as financial management, valuation of insurance companies, regulation of insurance, disaster insurance, health insurance, moral hazard, adverse selection, public policy toward insurance.

160. Economics of Crime and Justice
(4) PHILLIPS, VOTEY

Prerequisites: Economics 1 and 2 or 109.

Examines social policy to minimize the losses to crime and the costs of crime control. Develops the economics of crime generation, law enforcement, prosecution, corrections, and punishment.

172. Accounting Information Systems
(4) STAFF

Prerequisites: Economics 118 and 136A-B-C.

The analysis, design, and implementation of system studies into an accounting information systems environment through the use of case studies and computer accounting systems.

175. Regulation of Economic Activity
(4) DE CANIO

Prerequisites: Economics 100A-B.

Analysis of alternative public policies for maintaining competitive performance in the economy.

180. International Trade
(4) VOTEY

Prerequisite: Economics 100B or 104B.

Historical and contemporary trade mechanisms; international trade theory; trade and welfare and trade policy.

181. International Finance
(4) PIPPENGER

Prerequisite: Economics 101 or 105.

International money and capital markets and their impact on the domestic and world economies; international financial institutions and policies.

183. Economics of Entrepreneurship
(4) JOHNSON

Prerequisite: Economics 100B.

Study of entrepreneurs as risktakers, innovators, combiners of resources, and managers, and of the legal and institutional environments that encourage (and discourage) such activity.

184. Management and Organizational Behavior
(4) STAFF

Prerequisite: senior standing.

Structure and design of organizations, organizational behavior, management and organizational performance.

185. Management of Information
(4) STAFF

Prerequisites: Economics 1 (or 109) and 3A-B or 3A and 3C.

This course explores the management of information systems in large organizations. Emphasis is placed on the formation and implementation of organizational strategy as well as management control. Assumes no prior knowledge of computer-based information systems.

186. Business Law for Accountants
(4) STAFF

Prerequisites: Economics 3A-B and 7.

Designed to provide the accounting student with a knowledge of contract law, and the concepts of consideration, bailments, agency relationships, applications of the Uniform Commercial Code, and the law of corporations, partnerships, real and personal property, antitrust and securities regulations.

190. Selected Studies in Foreign Economies
(4) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated to a maximum of 12 units provided subject content is different.

An analysis of the economy of a particular country.

191AA-ZZ. Special Topics in Economics
(4) STAFF

Prerequisites: open to economics majors only. May be repeated for credit to a maximum of 8 units. Up to 8 units may be applied to the major providing letter designations are different.

Lectures in special areas of interest in economics. Consult the department office regarding proposed course topics.

194AA-ZZ. Group Studies
(1-4) STAFF

Prerequisites: upper-division standing and admission by special arrangement. Subject to departmental approval, students may repeat this course up to 12 units; however, only 4 units may count toward the major.

Intensive study and research on a topic in economics selected by the student with the guidance and approval of a faculty member.

195H. Senior Honors Seminar—Accounting
(4) STAFF

Prerequisite: consent of instructor. May be repeated once for credit.

Seminar format for accounting students to discuss advanced accounting theory and concepts. FASB pronouncements selectively reviewed for their conceptual background; students will research current agenda items before the FASB. Guest speakers from various accounting professions will supplement the lectures.

196H. Senior Honors Seminar
(4) STAFF

Prerequisite: admission to Department of Economics senior honors program. May be repeated once for credit.

Advanced topics in economic theory and policy. Weekly seminar discussions led by various members of the economics faculty.

199. Independent Studies in Economics
(1-5) STAFF

Prerequisites: Students must 1) have attained upper-division standing in the major; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in economics. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Only 12 units of Economics 199 may apply toward the major. Consent of department and instructor.

Coursework shall consist of academic research supervised by a faculty member. This course is not intended for internship credit.

199RA. Indepentent Research Assistance in Economics
(1-5) STAFF

Prerequisite: students must 1) have attained upper-division standing; 2)have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in Economics; 4) have consent of instructor and no more than 30 units total in 198/199/199RA courses.

Coursework shall consist of faculty supervised research.

GRADUATE COURSES

201. Dynamic Optimization in Economic Analysis
(4) STAFF

This course covers basic tools of dynamic optimization used in economics. Topics which may be covered include difference and differential equations, calculus of variations, dynamic programming, the linear optimal regulator problem and Kulman filtering.

203A. History of Economic Thought
(4) STAFF

Analysis of the development of economic theory from the middle ages to the late nineteenth century.

203B. History of Economic Thought
(4) STAFF

Prerequisite: Economics 203A or consent of instructor.

Analysis of the relationships between social conditions, economic theory, and economic policy from the neoclassical period to the present. Methodological problems including relationships to the sociology of knowledge and general intellectual history.

204A. Macroeconomic Theory
(4) PIPPENGER

Prerequisites: Economics 201A and 210A.

A brief history of macroeconomic thought through Keynes. Primitive and modern theories of consumption, investment, the demand for money and labor supply. Discussion of contracting theory and recent fixed price theories of the business cycle.

204B. Macroeconomic Theory
(4) STAFF

Prerequisite: Economics 204A.

Introduction to equilibrium business cycle theory. Discussion of the meaning of equilibrium and rational expectations. Study of the rational expectations models of Lucas, Sargent, Wallace, and Barro. Also, an introduction to growth theory.

205A-B. Economic Decisions
(4-4) COMANOR

Prerequisites: knowledge of differential calculus and economic theory. Economics 100A-B, Economics 101, or equivalent courses.

This course presents the basic concepts of microeconomics by emphasizing their application to actual situations and their use in problem-solving. It covers the theory of choice in the first term and the theories of the firm and of markets in the second.

206. Operations Research
(4) SENGUPTA

Prerequisite: Economics 205A, Economics 205B, or consent of instructor.

Topics in applied methods of operations research selected from stochastic programming, statistical decision theory, inventory control, and queuing.

207. Probability and Statistics
(4) FRECH

Prerequisite: Economics 5 or equivalent.

An introduction to probability theory and to the elements of statistical methodology useful in economic applications. The primary objective is to provide the foundation necessary for Economics 247. Campus computer facilities will be used for empirical statistical analysis.

208. Topics in Macroeconomic Theory and Policy
(4) PIPPENGER

Classical, Keynesian, and post-Keynesian theory of income and employment, and policy prescriptions thereof. Conventional theories of inflation. Introductory survey of disequilibrium theory, with emphasis on fixed price models, income constrained processes, the search theory of resource unemployment, and rational expectations formation.

209. Introduction to Operations Management
(4) STAFF

Prerequisite: Mathematics 3B or equivalent. Students who have received credit for Economics 205C will not receive credit for this course.

Linear and non-linear programming, queuing theory, inventory theory, and other topics in operations research with applications to business and economics.

210A. Microeconomic Theory
(4) FRECH

Prerequisites: Mathematics 3A-B-C or equivalent and Economics 104A-B or equivalent.

Theory of markets, exchange, competitive equilibrium, monopoly, price discrimination, oligopoly, asymmetric information.

210B. Microeconomic Theory
(4) GARRATT

Prerequisites: Mathematics 3A-B-C or equivalent and Economics 104A-B or equivalent.

Theory of firms and consumers. Profit maximization, cost minimization, duality, utility maximization, revealed preference, consumers' surplus.

210C. Microeconomic Theory
(4) QIN

Prerequisites: Economics 210A-B.

General equilibrium and welfare, Walrasian equilibrium, welfare theorems, stability, the core, public goods, externalities.

210D. Microeconomic Theory
(4) MARSHALL
Prerequisite: Economics 210D.

Capital theory and uncertainty. Expected utility, risk aversion, general equilibrium overstates and overtime, capital asset pricing model.

212. Economic History of Europe
(4) MERCER

Issues in European economic history.

213. American Economic History
(4) DECANIO

Issues in American economic history.

214A-B. Economic Development
(4-4) VOTEY, SENGUPTA

A study of the special problems faced by the less developed countries and the initial conditions and economic mechanisms that must be taken into account in raising living standards. Topics considered include population growth, labor supply, capital accumulation, the use of foreign resources, and effects of technological change.

216A-B-C. Organization of Industry
(4-4-4) COMANOR, FRECH, KROUSE
Prerequisite: for Economics 216C, Economics 216A-B or consent of instructor.

A-B: Theoretical and empirical analyses of "imperfect" competition. Individual or firm optimization and market equilibrium are considered. Topics include oligopoly, monopolistic competition, information, determinants of market structure, complex pricing, vertical relations. Antitrust, regulatory, and government ownership policies will be examined.

C: Reading and discussion of selected topics. Students, outside speakers, and faculty will present recent and on-going research and commentaries on recent court and regulatory decisions and the newer legal and economic literature in the field of industrial organization.

220A-B. Urban and Regional Economics
(4-4) SHAPIRO

A: The theory of city and regional economics. Economics theory when distance is taken as an important determinant of economic activity.

B: Urban and regional policy. The application of theory to policy decisions.

230A-B. Public Finance
(4-4) DEACON, STUART, SONSTELIE

A: Public goods, taxation, and expenditure theory.

B: Topics vary: public debt management and fiscal policy; advanced topics in public expenditure and taxation theory; analysis of collective choice, political processes, and group decision making.

230C. Public Finance
(4) DEACON, SHAPIRO, SONSTELIE
Prerequisites: Economics 230A-B or consent of instructor.

Reading and discussion of selected topics and recent literature in public finance and public economics. Emphasis on the development of dissertation research topics. Student presentations required. Course outline and readings will vary from quarter to quarter.

234A. Introduction to Finance
(4) MEHRA

Basic principles of financial management and an introduction to the subjects covered in subsequent courses in the Economics 234 sequence. Topics include financial planning, investment criteria, capital structure, and principles of asset valuation.

234B. Theory of Finance
(4) MEHRA

Rigorous treatment of asset pricing theory. The economics of intertemporal choice and choice under uncertainty are developed and applied to financial markets. Theories of asset pricing are covered including the capital asset pricing model, arbitrage pricing theory, and option pricing theory.

234C. Corporate Finance
(4) KROUSE
Prerequisites: Economics 234A-B; or consent of instructor.

Application of the theory of finance to the major issues in corporate finance. Topics include the cost of capital, dividend policy, long-term capital structure, cash budgeting, capital budgeting, lease-buy analysis, valuation and merger analysis.

234D. Investments
(4) MEHRA
Prerequisites: Economics 234A-B-c; or consent of instructor.

Applications of the therory of finance to securities investment. Topics include security analysis, portfolio theory, futures markets, options trading, and the evaluation of mutual funds.

235A. Money and Finance
(4) PIPPENGER, TESAR
Prerequisite: Economics 204A or 208.

Covers theoretical and empirical work on the efficiency of capital markets. Analyses investment and portfolio decisions for individuals and firms.

235B. Money and Finance
(4) STAFF
Prerequisites: Economics 210D; Economics 204A or 208; Economics 235A.

Covers the integration of dynamic capital theory and the theory of finance, multiperiod general equilibrium pricing models and tests of those models.

236. International Financial Management
(4) NISBET
Prerequisite: Economics 234A-B or consent of instructor.

Financial management is an international context including the environment of the multi-national corporation, identification and management of exchange rate risk, management of international financial assets and liabilities including the use of new financial instruments.

241A. Econometrics
(4) STAFF
Prerequisites: Mathematics 3A-B-C or equivalent.

Elements of probability and statistics for econometrics. Probability density functions, moment-generating functions, central limit theorems, method of maximum likelihood.

241B. Econometrics
(4) GROGGER
Prerequisite: Economics 241A.

Discussion of specific problems that arise in the course of estimating economics models, such as the use of dummy variables, heteroscedasticity, multicollinearity, autocorrelation and an introduction to simultaneous equation estimation.

241C. Econometrics
(4) GROGGER
Prerequisite: Economics 241B.

Covers extension of the general linear model, simultaneous equations estimation, identification, dynamic model structure, and limited dependent variable estimation. Emphasis is given to both theoretical development and applications of the basic theory.

244A-B. Mathematical Economics
(4-4) SENGUPTA
Prerequisites: Economics 201A, 210A-B-C-D; Mathematics 118 or consent of instructor.

Economic efficiency and stability in general equilibrium models, theory of the core and competitive markets, turnpike theorems in optimal growth theory and selected topics from recent developments in mathematical economics.

245A. Econometric Theory
(4) STEIGERWALD
Prerequisites: Economics 241A-B-C.

Extensions of regression analysis including the geometry of least squares, methods of non-linear estimation, and hypothesis testing. This course will also incorporate asymptotic distribution theory and semiparametric methods.

245B. Econometric Theory
(4) STEIGERWALD
Prerequisites: Economics 241A-B-C.

Methods of time series analysis. Topics include time domain and frequency domain representations, estimation, the Kalman filter and its applications.

245C. Econometric Theory
(4) GROGGER
Prerequisites: Economics 241A-B-C.

Limited-dependent variables and panel data. Methods for qualitative variables and truncated and censored samples; analysis of covariance and variance components techniques for continuous panel data; analysis of discrete-state, discrete-time and discrete-state, continuous-time models.

245D. Workshop in Econometrics
(4) STEIGERWALD
Prerequisites: Economics 245A-B and consent of instructor.

Reading and discussion of selected topics and recent literature in econometrics. Emphasis on the development of dissertation research topics. Student presentations required. Course outline and readings will vary.

246. Business Forecasting
(4) PHILLIPS
Prerequisite: Economics 140A/247 or 241C.

Various methods for econometric forecasting, including statistical decision theory, Box-Jenkins, adaptive models, single and simultaneous-structural equation models, and input-output analysis. Applications of various techniques to the forecasting needs of management, such as sales and inventory, will be discussed.

247. Introduction to Econometrics
(4) STAFF
Prerequisites: Economics 1 and 2 and Economics 5 or equivalent.

Practical course in development of economic models, analysis of specific functional forms, application of forecasting and estimation techniques. Emphasis on use of computer facility as aid in applying these techniques.

248. Applied Econometrics
(4) STAFF
Prerequisite: Economics 140A/247 or 241C.

For students familiar with basic regression theory this course examines particular econometric models and some advanced econometric techniques. Typical topics include consumption, production, and investment functions, income determination models, and simultaneous equations, macroeconomic forecasting models.

250A-B-C. Labor Economics
(4-4-4) PHILLIPS, TREJO

A: Theory and estimation of input demand; econometrics of demand systems; household production models.

B: Labor market equilibrium; implicit contracts theory; information and uncertainty in labor market; union behavior.

C: Theory and estimation of labor supply models; human capital and income distribution; labor mobility; economics of discrimination.

260A. Natural Resources
(4) DEACON

Capital theory and welfare economics applied to natural resource industries; the role of renewable and nonrenewable resources in the process of economic growth; analysis of externalities and common property resources; public investment criteria.

260B. Natural Resources
(4) DEACON

Capital theory, welfare economics, and benefit cost analysis at theoretical and applied levels, as they relate to energy resource management and public policy.

270A-B. The Management of Organizations
(4-4) STAFF

Managerial functions in the context of organization theory. The course studies the structure and design of organizations and major determinants of their performance including such behavioral factors as motivation, leadership, and group characteristics, and such managerial processes as planning, controlling, and communicating.

273A-B-C. Managerial Accounting
(4-4-4) STAFF

A: A course concerned with financial statements that are made available to creditors, stockholders, and other interested parties. The goal is to engender a knowledge of the measurement methods used by accountants and the ability to evaluate these methods.

B: The use of accounting as an instrument of financial planning and control. The goal is to build up an appreciation of the importance of planning and control within a business organization and an understanding of the methods and procedures used in practice and of the problems encountered in their use.

C: A course building on Economics 273A designed to assist the external user of financial statements to best use these data in the decision making process. To that end, the process of adjusting the statements to improve the measurements and the tools available to analyze the statements are used.

280A-B. International Trade
(4-4) MARSHALL, PIPPENGER, TESAR
Prerequisite: Economics 204A for Economics 280B.
A: International trade theory.
B: International finance.

281. Monetary Economics
(4) STAFF
Prerequisite: Economics 204A.
Examines the role of money in facilitating exchange, the links between the money supply and other macroeconomic aggregates, and the effects of monetary policy.

292. Field Research in Economics
(1-12) STAFF
Directed field research on a topic in economics.

297. Seminar on the Teaching of Economics.
(2) MORGAN
Prerequisite: graduate standing.
Seminar and laboratory work covering the planning, presenting, and evaluating of instruction.

590A-B. Business Economics Practicum.
(4-4) STAFF
A seminar in which students apply the analytical skills acquired in preceding coursework in the M.A.B.E. program to real business issues.

592. Teaching in Economics
(4-5) STAFF
No unit credit allowed toward advanced degree.
Teaching assistant: leads discussion of topics covered in faculty lecture. Associate: assumes full responsibility for the teaching of one or more courses.

593. Research in Economics
(4) STAFF
No unit credit allowed toward advanced degree.
Research under the direction of a faculty member.

594AA-ZZ. Special Topics in Economics
(1-4) STAFF
Prerequisites: graduate standing and consent of instructor.
Special seminar on research subjects of current interest.

595AA-ZZ. Group Studies in Economics
(4) STAFF
Prerequisites: graduate standing and consent of instructor.
Critical review of research in selected fields.

596AA-ZZ. Directed Reading and Research
(2-4) STAFF
Prerequisites: graduate standing and consent of instructor.
Individual tutorial.

597. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations
(1-12) STAFF
Prerequisites: graduate standing and consent of instructor. No unit credit allowed toward advanced degree.
Instructor should be the student's major professor or chair of the doctoral committee.

598. Master's Thesis Research and Preparation
(1-12) STAFF
Prerequisites: graduate standing and consent of instructor. No unit credit allowed toward advanced degree.
Only for research underlying the thesis, writing the thesis. Instructor should be the chair of the student's thesis committee.

599AA-ZZ. Dissertation Research and Preparation
(1-12) STAFF
Prerequisites: graduate standing and consent of instructor.
Only for research underlying the dissertation, writing the dissertation. Instructor should be the chair of the student's doctoral committee.

English

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Division of Humanities and Fine Arts,
South Hall 2607;
Telephone (805) 893-3441
Department Chair: Richard Helgerson

Faculty

H. Porter Abbott, Ph.D., University of Toronto, Professor *(the novel, autobiography)*

Steven Allaback, Ph.D., University of Washington, Professor *(fiction, American literature, fiction writing)*

Sheridan Blau, Ph.D., Brandeis University, Senior Lecturer with Security of Employment *(English education, 17th-century literature)*

Lee Bliss, Ph.D., UC Berkeley, Professor *(Renaissance literature, drama)*

Maurizia Boscagli, Ph.D., Brown University, Assistant Professor *(gender studies, modern literature)*

Edgar Bowers, Ph.D., Stanford University, Professor Emeritus

Elliott Butler-Evans, Ph.D., UC Santa Cruz; Associate Professor *(Marxist literary theory, feminist theory, cultural semiotics, modern fiction, Afro-American literature)*

Julie Carlson, Ph.D., University of Chicago, Assistant Professor *(English Romantic literature, feminist theory)*

Andrew E. Duffy, Ph.D., Harvard University, Assistant Professor *(English literature, post-Colonial literature, Irish literature)*

Robert A. Erickson, Ph.D., Yale University, Professor *(17th- and 18th-century English literature)*

Michael A. Fernandez, M.A., California State University, San Francisco, Lecturer Emeritus

Joseph Foladare, Ph.D., Yale University, Professor Emeritus

Louise Fradenburg, Ph.D., University of Virginia, Associate Professor *(medieval literature)*

Patricia Fumerton, Ph.D., Stanford University, Associate Professor *(Renaissance literature and culture)*

Frank C. Gardiner, Ph.D., University of Oregon, Associate Professor *(medieval literature, medieval studies)*

Giles Gunn, Ph.D., University of Chicago, Professor *(American literature and critical theory)*

Donald Guss, Ph.D., University of Wisconsin, Professor *(English literature 1500-1660, Italian Petrarchism, Renaissance literary history)*

Carl Gutierrez-Jones, Ph.D., Cornell University, Assistant Professor *(Chicano and American literature)*

Victoria Harrison, Ph.D., Rutgers University, Assistant Professor *(American literature)*

Eloise Hay, Ph.D., Harvard University, Professor *(modern English and American literature)*

Richard Helgerson, Ph.D., Johns Hopkins University, Professor *(literature and culture of the English Renaissance)*

Paul Z. Hernadi, Ph.D., University of Vienna and Ph.D., Yale University, Professor *(literary theory, history of criticism, comparative literature, modern drama)*

Shirley Geok-Lin Lim, Ph.D., Brandeis University, Professor *(Asian American literature, post-Colonial literature, ethnic and feminist writing)*

Alan Y. Liu, Ph.D., Stanford University, Associate Professor *(Romantic literature, literary theory)*

Edward Loomis, Ph.D., Stanford University, Professor Emeritus

William S. Marks III, Ph.D., Stanford University, Associate Professor *(19th-century American fiction, modern British and continental fiction)*

Mark Maslan, Ph.D., UC Berkeley, Assistant Professor *(American literature)*

J. Chesley Mathews, Ph.D., UC Berkeley, Professor Emeritus

Patrick J. McCarthy, Ph.D., Columbia University, Professor Emeritus

Frank McConnell, Ph.D., Yale University, Professor *(American literature, British Romanticism, film, popular culture, literary theory)*

Stephen Miko, Ph.D., Yale University, Associate Professor *(modern novel)*

Christopher Newfield, Ph.D., Cornell University, Assistant Professor *(American literature)*

Michael O'Connell, Ph.D., Yale University, Professor *(Renaissance poetry and drama)*

Carol Braun Pasternack, Ph.D., UC Los Angeles, Assistant Professor *(medieval studies)*

Donald Pearce, Ph.D., University of Michigan, Professor Emeritus

Anne Pidgeon, M.A., University of Michigan, Lecturer with Security of Employment Emerita

John Ridland, Ph.D., Claremont Graduate School, Professor *(writing, poetry, teaching of writing and poetry)*

Mark Rose, Ph.D., Harvard University, Professor *(Shakespeare, Spenser, Renaissance literature)*

Logan Speirs, M.A., Cambridge University, Associate Professor *(English and comparative literature)*

T.R. Steiner, Ph.D., Columbia University, Associate Professor *(18th-century literature, criticism and theory, detective fiction)*

Alan Stephens, Ph.D., University of Missouri, Professor Emeritus

Garrett Stewart, Ph.D., Yale University, Professor *(19th-century English fiction, narrative theory)*

Garth St. Omer, M.F.A., Columbia University, Ph.D., Princeton University, Professor *(modern fiction and the writing of fiction)*

Homer Swander, Ph.D., University of Michigan, Professor *(Shakespeare, modern drama)*

Lawrence Willson, Ph.D., Yale University, Professor Emeritus

Eric White, Ph.D., UC Berkeley, Associate Professor *(literary theory, 20th-century literature, rhetoric of scientific discourse, history of rhetoric)*

Everett Zimmerman, Ph.D., Temple University, Professor *(18th-century satire, the novel)*

Muriel Zimmerman, Ph.D., Temple University, Senior Lecturer with Security of Employment and Director, Writing Program

The Department of English performs several related functions: (1) it offers all undergraduates the opportunity to develop their skills in writing and in the critical reading of a variety of literary texts; (2) it makes available to all students a wide range of courses that may be taken for elective credit; (3) it provides a coherent and comprehensive program of literary studies leading to the Bachelor of Arts degree; (4) it offers graduate programs leading to the M.A. and Ph.D. degrees; and (5) it collaborates with other departments in the following major programs: comparative literature, film studies, medieval studies, renaissance studies, and environmental studies in the College of Letters and Science, and the literature program in the College of Creative Studies.

Current and prospective English majors are urged to consult the departmental undergraduate adviser for assistance in preparing programs of study. Students may also consult faculty advisers about academic and career aspects of their studies. Students should ask for a copy of the English Department Undergraduate Handbook.

Some students majoring in English prepare for teaching careers in English and related fields. Most, however, enter other occupations and professions that call upon skills in verbal analysis and communication. The major is appropriate preparation for such fields as law, business, library science, public administration, journalism, publishing, and advertising. Majors are encouraged to consult the undergraduate adviser as well as the university career and placement offices about career opportunities.

The William Frost Award is given annually to a senior or upper-division English major and carries a substantial stipend. Entrants are judged on their academic records, as well as on a critical essay which represents the student's best work. Entry dates are announced during the winter quarter.

The Yvonne Gartrell Memorial Scholarship is offered by the Department of English on an annual basis to a deserving incoming graduate or senior undergraduate student. Further information about the scholarship is available from the department office.

Affiliated Programs. Four programs are directed by department members: the Alliance for Creative Theatre, Education, and Research (ACTER); the South Coast Writing Project (SCWriP), which is affiliated with the Graduate School of Education; the Literature Institute for Teachers (LIT); and the Interpretive Studies Colloquium, an interdepartmental project designed to explore cross-disciplinary aspects of interpretive theory and practice.

ACTER initiates and supports a wide range of scholarly and pedagogical programs to explore and develop the relationship between literature and theatre. It works closely with other major universities, with such institutions as the Folger Shakespeare Library, and with such theatres as the Royal Shakespeare Company and the Mark Taper Forum.

SCWriP is a staff development program designed to improve the teaching of composition in all disciplines and grades, from elementary school through college. It conducts the Summer Institute in Composition at UCSB and year-round workshops on campus and at neighboring schools and colleges. SCWriP is an affiliate of the Bay Area Writing Project, the California Writing Project, and the National Writing Project.

The Literature Institute for Teachers is an NEH-sponsored project designed to improve the teaching of literature at all grades from elementary school through the university. Conducted as an advanced program of SCWriP, it provides summer institutes and academic-year professional development programs for teachers.

The Interpretive Studies Colloquium arranges conferences devoted to selected topics of cross-disciplinary interest, as well as group discussions exploring new directions in interpretive theory and practice. Both faculty and graduate students of various disciplines are invited to participate in the events organized by ISC.

The Writing Program offers required and elective courses at freshman and advanced levels. Writing Program courses are based on two premises: (1) Writing is a central activity in all subjects and majors at the university; (2) Writing cannot be learned once, in the freshman year. At every level, student writers can profitably study the modes of exposition and argument appropriate to their fields.

When students have satisfied the University Subject A requirement, they are required to take English 2 and one additional course from the following list: English 3, 10, 106, 106WP, 109A, 109B, 109C, 109D, 109E, 109G, 109H, 109I, and 109K. The English 109 courses cover areas such as scientific, technical, legal, and social-science writing. Interdisciplinary 250 is a seminar in the teaching of academic writing, open to graduate students in all disciplines.

The Program of Intensive English (PIE) offers EOP and other students from traditionally underrepresented communities the opportunity to meet the General Education Area A requirement through alternative sections of English 1, 2, 3, and 109. These sections are smaller, provide tutorial assistance, and offer students the opportunity to stay with the same instructor for two or three successive quarters. PIE offers a combination of LINKS and non-linked courses. Scheduling information is available through the PIE office, South Hall 1720, 893-3864.

Some sections of English 1, 2, and 3 are linked to specific General Education courses. These sections, referred to as LINKS, are open to any student co-enrolled in the appropriate General Education course. The instructional aim of LINKS is to help students master academic writing and critical thinking skills with the context of a GE course. Refer to the *Schedule of Classes* for a listing of LINKS English sections. For more information, call the Writing Program Office, 893-2613.

Teaching Credentials. The Department of English, in cooperation with the Graduate School of Education, offers a three-quarter program of graduate studies leading to a Single Subject Teaching Credential in English. The credential year includes a writing program coordinated by the staff and teacher/consultants of SCWriP. Students who wish to pursue a teaching career should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—English

Preparation for the major. Required, with a grade-point average of 2.0 or higher: English 2, 3, 20, 30, 40; one course from Classics 36 (recommended), 37, 38, 102, Comparative Literature 30A, Dramatic Arts 160A; and three courses, preferably leading to a focus, from History 4B, 4C, 17A, 17B, 17C, 140A, 140B, 141A, 141B.

Foreign language requirement. Students must complete either Option 1 or Option 2 below. Option 1 is recommended. Election to Phi Beta Kappa requires Option 1. Students who contemplate graduate study should consult their prospective graduate schools to determine if specific languages are required.

Option 1: Completion of the fifth quarter or its equivalent in any foreign language currently taught at UCSB. Any student whose plan or program requires some language other than those stipulated may substitute that language by petition.

Option 2: Complete A and B, as follows: A. Quarter three or equivalent of a foreign language as indicated in Option 1. B. Five upper-division foreign literature in translation courses (see department adviser for list of options).

Upper-division major. Forty upper-division units in English are required, including 20 units in the following courses: English 117A or 117B or 118; 136A or 136B or 136C; 152A; 162; 197. The remaining 20 units of electives must be chosen from upper-division courses in English, with a maximum of 4 units of English 196. English 106 through 110AA-ZZ and 117E will not apply to this requirement.

Consult the department's quarterly Course Outline Booklet for the content of any particular English course.

Honors Program

The Honors Program in English provides the opportunity for qualified majors to pursue advanced literary research and writing. To qualify for the program, students must maintain a grade-point average of 3.5 (overall and/or in the major) and have completed at least two quarters of the junior year at UCSB. After consulting with their department advisers, they may then apply to a professor of their choice with whom they will work for two quarters of their senior year on the writing of a thesis (or equivalent in creative composition), successful completion of which will merit the award of Distinction in the Major at graduation.

Students are also encouraged to apply for admission to the College of Letters and Science Honors Program as early as possible in their college work.

Further information about the Honors Program is available from the department's Honors Program adviser and from the academic program adviser.

Bachelor of Arts—English—Creative Writing Emphasis

The Department of English offers a series of creative writing courses primarily for qualified majors. Non-majors may submit work to be considered for admission to particular courses. Enrollment in all creative writing classes is by permission of the instructor. The creative writing emphasis is for talented English majors who wish to concentrate on writing fiction or poems.

Students apply for admission to the creative writing emphasis by submitting a collection of creative work, in verse or fiction or both, for screening by a committee of creative writing instructors. Students who are accepted confer with one of these instructors, who will serve as adviser from admission through graduation. Applicants are advised to complete the lower-division major requirements before entering the emphasis. Those wishing to go on to a Master of Fine Arts degree should consult their adviser about the variety of programs available.

Preparation for the major. Same as preparation for the Bachelor of Arts—English.

Upper-division major. The creative writing emphasis consists of eleven upper-division courses (44 units):

A. Two courses in the Craft of Writing (English 182AA-ZZ and/or 183AA-ZZ—preferably both)
B. Four creative writing courses—English 101 is prerequisite to the others (English 103, 104, 105S-SP-SF)
C. English 117A or 117B or 118
D. English 152A or 162
E. Three upper-division English electives (except creative writing courses, English 106-110AA-ZZ, 117E)

Further information about the creative writing emphasis may be obtained from the creative writing staff and from the undergraduate staff adviser.

Graduate Program

The Department of English offers two closely related graduate programs: an M.A./Ph.D. program for students who have completed the B.A., and a Ph.D. program for those who come to UCSB with an M.A. from another institution. Both programs include extensive coursework in English and American literature, two qualifying examinations (the first of which also serves as the M.A. examination), and a doctoral dissertation. The M.A./Ph.D. is normally a five-year program. The Ph.D. for students who enter with an M.A. should take no more than four years. Fellowship support is available for particularly strong candidates in their first and/or last years of graduate study. Additional support comes from teaching assistantships. Most students become teaching assistants, whether as section leaders in advanced literature courses or as instructors in freshman English, by their second year in the program, if not earlier. In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Students entering either the M.A./Ph.D. or the Ph.D. program should be aware that they are undertaking not only to deepen their enjoyment and understanding of major literary texts, modes, and movements, but also to explore their potential as interpreters, scholars, and in most cases, teachers of literature and language. They are embarking on a systematic course of study designed to ensure an understanding of literary history and its major achievements and to make them fully participating members of a professional community of scholars.

Admission

Students admitted to the M.A./Ph.D program will normally have completed an undergraduate major in English or have done extensive undergraduate work in English. For admission to the Ph.D. program applicants must have completed an M.A. in English. Admission to both programs is based on five kinds of evidence: (1) transcripts, (2) letters of recommendation, (3) scores on the GRE general test and subject test in English literature, (4) a writing sample, and (5) the statement of purpose. The writing sample should normally be a substantial paper written in an upper-division or graduate English literature course.

Master of Arts—English

Degree Requirements

Requirements for the M.A. include the successful completion of (1) 36 units of graduate coursework; (2) an examination in one foreign language; (3) a comprehensive first qualifying examination. Only those students who complete their graduate coursework and the first qualifying examination with sufficient distinction will be invited to continue working toward the Ph.D.

Doctor of Philosophy—English

Degree Requirements

Requirements for the Ph.D. include (1) 24 units of graduate coursework beyond the M.A.; (2) fulfillment of language option A (two languages at the level of basic competency), or B (one language at the level of special competency); (3) a second qualifying examination covering three areas of concentration, one of which is the intended dissertation field; and (4) the dissertation. Students entering the Ph.D. program directly with an M.A. from another institution must also take the first qualifying examination no later than their third quarter of residence.

Additional information concerning both the M.A./Ph.D. program and the Ph.D. program can be found in the English Department's graduate handbook.

English Courses

Detailed descriptions of English courses for the next quarter may be found in the Course Outline Booklet available in the department office prior to registration.

English 1, 2, 3, or equivalents are prerequisites to all other English courses (except 109F).

LOWER DIVISION

1. Approaches to University Writing
(4) STAFF

Principles of critical reading, thinking, and writing in the university. Students analyze academic discoure, develop rhetorical strategies for exposition and argument, practice examination writing, write and revise source-based papers. Completion with a grade of C or better meets the Subject A requirement.

2. Academic Writing
(4) STAFF

Prerequisite: English 1 or equivalent. Not open to students who have completed English 2A.

A writing course focusing on developing analytical skills, on synthesizing multiple sources, on sustaining coherent arguments, and on revising for clarity of style. Reading and writing assignments are drawn from a range of academic disciplines.

3. Intermediate Academic Writing
(4) STAFF

Prerequisites: English 1, 2, or equivalents.

A writing course addressing the analytical skills underlying the research processes of various academic communities. Sections vary in topic and disciplinary emphases. See Writing Program for section descriptions.

10. Introduction to Literary Study
(4) STAFF

Prerequisites: English 1, 2, or equivalents. Recommended as an alternative to English 3 for students planning to major in English or literary study.

Acquaints students with purposes and tools of literary interpretation. Introduces techniques and vocabulary of analytic discussion, introduces students to critical writing. Emphasis will be on poetry with some attention to drama, essay and the novel.

10S. Seminar for Introduction to Literature
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. concurrent enrollment in English 10. Consent of instructor.

A seminar course for a select number of students enrolled in English 10 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 10 reading list, as well as supplemental writing.

20. The Literature of the English Renaissance
(4) STAFF

Prerequisites: English 2 and 3, or equivalents. English 10 recommended for English majors. English 20 should normally be taken before English 30 or 40. Recommended for English majors only, as part of their core curriculum.

An introduction to the literature primarily of the English Renaissance stressing such authors as Chaucer, Marlowe, Jonson, Spenser, Webster, Donne, and Marvell. Continuing emphasis on developing skill in writing.

20S. Seminar on Literature of the English Renaissance
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. concurrent enrollment in English 20. Consent of instructor.

A seminar course for a select number of students enrolled in English 20 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 20 reading list as well as supplemental writing.

30. English Literature of the Restoration and Eighteenth Century

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. English 30 should normally follow English 20 and precede English 40. Recommended for English majors only, as part of their core curriculum.

An introduction to the literature of the period from 1660-1800 stressing such authors as Milton, Dryden, Pope, Johnson, Fielding, and Swift. Continuing emphasis on developing skills in writing.

30S. Seminar on English Literature of the Restoration and 18th Century

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. concurrent enrollment in English 30. Consent of instructor.

A seminar course for a select number of students enrolled in English 30 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 30 reading list as well as supplemental writing.

40. English Literature of the Nineteenth Century

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. English 40 should normally be taken after English 20 and 30. Recommended for English majors only, as part of their curriculum.

An introduction to the English literature of the period 1800-1900, stressing such authors as Wordsworth, Coleridge, Shelley, Keats, Arnold, Tennyson, Browning, and Yeats. Continuing emphasis on developing skill in writing.

40S. Seminar on English Literature of the 19th Century

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 40. Consent of instructor.

A seminar course for a select number of students enrolled in English 40 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 40 reading list as well as supplemental writing.

97. Lower-Division Seminar

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Lower-division standing.

A seminar for lower-division students with a strong interest in literature. See departmental *Course Outline Booklet* for topics. Content will vary with each instructor. Students will be asked to do a project that acquaints them with some of the resources of the library and results in their reading beyond the primary course materials.

UPPER DIVISION

100H. Intermediate Honors Seminar

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Cumulative grade-point average of 3.0 and consent of instructor.

An honors seminar for sophomores and juniors featuring advanced study of literary texts. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

101. Creative Writing

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Consent of instructor. Preference given to majors. May be repeated for credit up to 8 units.

Writing in such forms as the short story, poetry, and fiction.

103. Writing of Fiction

(4) STAFF

Prerequisites: English 101. Consent of instructor. Highest priority to English majors in the Creative Writing Emphasis, with next preference to English majors. May be repeated for credit up to 12 units.

All forms.

104. Writing of Verse

(4) STAFF

Prerequisites: English 101. Consent of instructor. Highest priority to English majors in the Creative Writing Emphasis, with next preference to English majors. May be repeated for credit up to 12 units.

All forms.

105AA-ZZ. Seminar in Creative Writing

(1-5) STAFF

Prerequisites: English 101. Students must have (1) attained upper-division standing; (2) a minimum 3.0 grade-point average for the preceding three quarters; (3) completed at least two upper-division courses in English. Highest priority to English majors in the Creative Writing Emphasis, with next preference to English majors.

106. Writing of Nonfictional Prose

(4) STAFF

Prerequisites: English 1, 2, or equivalents. May be repeated for credit up to 8 units.

A nonfiction writing course for upper-division students prepared to undertake sophisticated writing projects.

106WP. Writing in Preparation for Teaching

(4) STAFF

Prerequisites: English 1, 2, or equivalents. May be repeated for credit to a maximum of 12 units.

A writing workshop for teachers and prospective teachers.

108. Practicum in the Composing Process

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. May be repeated for credit to a maximum of 12 units.

A workshop in the composing process, emphasizing experiments and exercises in invention, writing, revision, and work in writing-response groups. Includes an examination of recent research in composition. Ordinarily offered under direction of South Coast Writing Project.

108T. Advanced Writing Workshop and Practicum for Tutors

(5) STAFF

Prerequisites: English 2 and 3 or equivalents. Writing sample, consent of instructor, and strong interest in tutoring or teaching writing.

Intensive practice in academic writing and in responding to writing. Includes examination of composition theory as it applies to writing in academic disciplines. Also includes internship in UCSB Tutorial Center.

109A. Writing for Science and Technology

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Analysis and practice of various forms of scientific and technical writing, both academic and professional, such as reports, proposals, journal articles, and abstracts. Attention to research methods, design of papers, development of graphics, technical style, and editing strategies.

109B. Writing for the Social Sciences

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Analysis and practice of various forms of writing for the social sciences, both academic and professional. Attention to research methods, design of appers, development of graphics, stylistic clarity, and editing strategies.

109C. Writing for Economics and Business Economics

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Strategy, style, format for various types of academic and professional writing, practices in economics, including papers, reviews, abstracts, proposals. Attention to visual aspects of communication, design, and graphics.

109D. Legal Writing

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Practice in applying rules to facts, in analyzing issues, and in writing clearly, succinctly, and cogently in various forms of legal discourse.

109E. Writing for the Visual Arts

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Analysis and practice of various forms of writing for the visual arts. Analytical and evaluative writing, grant proposals, professional resumes. Of special interest ot majors in art studio, art history, dance, dramatic arts, and film studies.

109F. Advanced Topics in Writing

(4) STAFF

Prerequisite: satisfactory completion of one English 109 course or consent of instructor. Course may be repeated for credit up to a maximum of 12 units.

Production of complex documents; visual aspects of communication; stylistic clarity; editing for varied purposes. Each section will have a special focus, such as writing about computers, writing academic and professional proposals, writing environmental impact reports.

109G. Writing Research Across the Disciplines

(4) STAFF

Prerequisite: English 1,2, or equivalents. Current enrollment in or completion of Interdisciplinary 1. Not open to students who have completed Interdisciplinary 102.

Practicing academic research as the exploration of intellectual problems. Using library resources, students work through stages of research writing: defining questions; interpreting and evaluating sources; developing, organizing, formatting, documenting research papers. Some sections offered to students in specified academic disciplines.

109H. Writing for the Humanities

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Analysis of various forms of writing for the humanities, both academic and professional. Attention to modes and methods of argumentation, research methods, design of papers, stylistic clarity, and editing strategies.

109I. Writing for Environmental Studies

(4) STAFF

Prerequisites: English 1, 2, or equivalents; upper-division standing.

Analysis and practice of various forms of writing for environnmental studies, both academic and professional. Attention to research methods, design of papers, development of graphics, stylistic clarity, and editing strategies

109PA-PB-PC. Academic Research Writing

(1-1-2) STAFF

Prerequisites: English 1, 2, or equivalents. This is an in-progress course. Students may take either two or three quarters with final grade issued upon completion of 109PC. Sequence may be repeated once.

Preparation of long academic documents, including theses and group reports. Sections will be offered to students in a specified academic discipline, and instruction will focus on the discourse conventions of that discipline.

109PD. Academic Research Writing

(2) STAFF

Prerequisites: English 1 and 2, or equivalents.

Preparation of long academic documents including theses and group reports. Sections will be offered to students in a specified discipline, and instruction will focus on the discourse conventions of that discipline.

110AA-ZZ. Adjunct Writing

(2) STAFF

Prerequisites: English 1, 2, 3 or equivalents. P/NP only. May be repeated for credit up to 6 units.

Practice in writing within the conventions of an academic discipline. Each section is taught in conjunction with a specified academic course, and writing assignments are based on the subject matter of the companion course.

111. The History of the English Language

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

English in its old, middle, and modern forms. Such introductory topics as language families and change; etymology, semantics; grammars, syntax; oral, written; groundwork for such methods of literary analysis as stylistics.

112. Practical Criticism

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Not open to students who have completed 107.

A combined writing and criticism course for students of literature.

113AA-ZZ. Studies in Literary Theory and Criticism

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Repeat credit up to 12 units will be given providing letter designations are different.

Exploration in traditions and innovations of critical theory, literary interpretation, and philosophy. Topics vary from quarter to quarter, but will focus on the major critical figures or movements (from Aristotle to the present) that have shaped our notion of "literature."

114AA-ZZ. Women and Literature

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Course may be repeated an unlimited number of times providing the letter designations are different. Only 8 units of major credit will he allowed.

The courses offered will include at different times such subjects as feminist theory, women writers, and women in literature.

115. Medieval Literature

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

English and Continental literature through the fifteenth century, exclusive of the Canterbury Tales but including such works as Beowulf, Morte d'Arthur, Sir Gawain and the Green Knight, and selected romances and lyrics.

116A. Biblical Literature: The Old Testament

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A literary approach to the Hebrew scriptures and the Apocrypha.

116B. Biblical Literature: The New Testament

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. English 116A is recommended.

A literary approach to the New Testament.

116C. Biblical Literature: An Introduction

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Students may not take English 116C if they have taken 116A or 116B.

Literary approaches to the Hebrew Scriptures and the New Testament.

117A. Shakespeare, Poems and Earlier Plays

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Major poems and plays of Shakespeare, 1593-1602, including such works as the Sonnets, Hamlet, A Midsummer Night's Dream, Henry the Fourth, Twelfth Night.

117B. Shakespeare, Later Plays

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Major works of Shakespeare from 1603-1613, including such plays as King Lear, Macbeth, Antony and Cleopatra, Othello, The Tempest.

117C. Shakespeare, Advanced Studies

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Advanced study of Shakespearean topics.

117E. Shakespeare

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A general introduction for nonmajors.

117ES. Seminar on Shakespeare (non-majors)

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 117E. Consent of instructor.

A seminar course for a select number of students enrolled in English 117E designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 117E reading list as well as supplemental writing.

118. Shakespeare: Selected Poems and Plays

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Not open for credit to students who have completed English 117A or 117B.

Selected poems and plays, 1593-1613.

118S. Seminar on Shakespeare (for majors)

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 188. Consent of instructor.

A seminar course for a select number of students enrolled in English 118 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 118 reading list as well as supplemental writing.

119. Studies in Medieval Literature

(4) STAFF

Prerequisites: English 1, 2, and 3, or their equivalents.

Topics will vary from quarter to quarter. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

120. Modern Drama

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

European and American drama from Ibsen to the present.

121. The Art of Narrative

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

An exploration of traditions and functions of storytelling; may include a range of forms from the anecdote to the novel.

121S. Seminar on the Art of the Narrative

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. concurrent enrollment in English 121. Consent of instructor.

A seminar course for a select number of students enrolled in English 121 designed to enrich the large lecture experience for the motivated student. course will include either supplementary readings, or more intensive study of the English 121 reading list.

122AA-ZZ. Cultural Representations

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A study of literary works, paintings, films, and other representational forms as they influence cultural attitudes. The courses offered will focus on such topics as the body, the city, the everyday, the marketplace, and the machine.

122S. Seminar on Cultural Representations

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 122. Consent of instructor.

A seminar course for a select number of students enrolled in English 122 Designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 122 reading list, as well as supplemental writings.

123. The Novel in English

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A survey of British and American fiction from the late eighteeth century to the present.

124. Readings in the Modern Short Story

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Consult the Course Outline Booklet in the department office for the authors read in any particular quarter.

124S. Seminar on the Short Story.

(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 124. Consent of instructor.

A seminar course for a select number of students enrolled in English 124 designed to enrich the large lecture experience for the mtoivated student. Course will include either supplementary readings, or more intensive study of the English 124 reading list, as well as supplemental writing.

126A. Survey of British Fiction (I)

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The eighteenth century. Such writers as Defoe, Richardson, Fielding, Smollett, and Sterne.

126B. Survey of British Fiction (II)

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The nineteenth century to 1850. Such writers as Austen, the Brontes, Thackeray, and Dickens (earlier novels).

126C. Survey of British Fiction (III)

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The nineteenth century from 1850. Such writers as Dickens (later novels), Eliot, Trollope, and Hardy.

126D. Survey of British Fiction (IV)

(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The twentieth century. Such writers as Conrad, Joyce, Lawrence, Forster, Virginia Woolf, and Huxley.

128AA-ZZ. Literary Genres

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Course may be repeated for credit up to 12 units providing letter designations are different. Only 8 units of credit may apply to the major.

Detailed readings in, and critical examinations of, specific literary forms. Recently taught genres have included autobiography, comedy, romance, satire.

131. Studies in American Literature

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. May be repeated with permission of department chair to a total of 8 units if course content varies.

Topics will vary from quarter to quarter. To see what is being taught any particular quarter, students should consult the department's Course Outline Booklet.

132AA-ZZ. Studies in American Writers

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Repeat credit will be given providing letter designations are different.

Courses in individual American writers such as Hawthorne-Melville (132HM); Henry James (132J); Mark Twain (132T); Ernest Hemingway (132H); William Faulkner (132F); Emily Dickinson (132 D); Robert Frost (132FR); Walt Whitman (132W).

133AA-ZZ. Studies in American Regional Literature

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Course may be repeated for credit up to 8 units providing letter designations are different.

Courses on American writing associated with particular regions such as the South, the West, New England.

134AA-ZZ. Studies in the Literature of Cultural and Ethnic Communities in the United States

(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Course may be repeated for credit up to 12 units providing

177. The Age of Romanticism
(4) STAFF
Prerequisites: English 2 and 3, or equivalents.

English and Continental literature of the romantic movement.

178. Nineteenth-Century Prose
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Nonfiction prose writers of the romantic and Victorian periods, such as Coleridge, Hazlitt, Arnold, and Carlyle.

179. British Romantic Writers
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Such writers as Blake, Wordsworth, Coleridge, Byron, Keats, Shelley, Lamb, and Hazlitt.

180. The Victorian Era
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Such writers as Browning, Tennyson, Hopkins, Hardy, and the pre-Raphaelites.

181. Studies in the Nineteenth Century
(4) STAFF
Prerequisites: English 2 and 3 or equivalents. May be repeated with permission of Department Chair to a total of 8 units if course content varies.

A course in the romantic and Victorian periods. Topics will vary from quarter to quarter. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

182AA-ZZ. Craft of Prose
(4) STAFF
Prerequisites: English 2 and 3 or equivalents. Highest priority to English majors in the creative writing emphasis, with next preference to other English majors. Completion of lower-division English major requirements strongly advised. Repeat credit up to 12 units providing letter designations are different.

Reading of selected fiction and other relevant prose emphasizing analysis and understanding of literary methods, kinds, techniques, and objectives from the viewpoint of the practicing writer.

183AA-ZZ. Craft of Verse
(4) STAFF
Prerequisites: English 2 and 3 or equivalents. Highest priority to English majors in the creative writing emphasis, with next preference to other English majors. Completion of lower-division English major requirements strongly advised. Repeat credit up to 12 units will be given providing letter designations are different.

Reading of selected poems and critical statements by the authors emphasizing analysis and understanding of literary methods, kinds, techniques, and objectives from the viewpoint of the practicing writer.

184. Modern European Literature
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Helps to fulfill the English major requirement in foreign language (Option 2). Such authors as Dostoyevsky, Tolstoy, Proust, Kafka, Mann, and Sartre in translation.

185. Modernism in English
(4) STAFF
Prerequisites: English 2 and 3, or equivalents. English 10 recommended for English majors.

A survey of English Modernism. Reading may include works by immediate precursors of English Modernism (Pater, Wilde), buy will concentrate on representative texts by such central figures as Eliot, Pound, HD, Williams, Yeats, Stein, Woolf, Conrad and Barnes.

186. Modernism
(4) STAFF
Prerequisites: English 2 and 3, or equivalents. English 10 recommended for English majors.

Introduction to Modernism as an international complex of interconnected aesthetic ideas and practices across the media.

187. Studies in Modern Literature
(4) STAFF
Prerequisites: English 2 and 3 or equivalents. May be repeated with permission of Department Chair to a total of 8 units if course content varies.

Topics will vary from quarter to quarter. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

188. Studies in Postmodernism
(4) STAFF
Prerequisites: English 2 and 3, or equivalents. English 10 recommended for English majors. English 185 or 186.

A course devoted to both the texts and problematics of postmodernism.

189. Contemporary Literature
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Study of English and American contemporary drama, fiction, and poetry written since 1960.

190. Literature in English Outside England and the United States
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Literature in English from such countries as India, the Caribbean, and the African nations.

191. Afro-American Fiction and Criticism, 1920s to the Present
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Such early writers as Hughes, Hurston, Wright, Ellison, Baldwin, and such contemporary writers as Reed, Walker, Morrison, Bambara within various cultural and theoretical contexts.

192. Science Fiction
(4) STAFF
Prerequisites: English 2 and 3 or equivalents. Suitable for majors as well as non-majors.

The course examines science fiction as a literary genre. Emphasis throughout is upon the nature and development of the genre in its historical and cultural context.

192S. Seminar on Science Fiction
(1) STAFF
Prerequisites: English 2 and 3 or equivalents. concurrent enrollment in English 192. Consent of instructor.

A seminar course for a select number of students enrolled in English 192 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 192 reading list, as well as supplemental writing.

193. Detective Fiction
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

Critical and historical study of fiction from the classics of Poe, Conan Doyle, and Christie to the many contemporary kinds.

196. Honors English
(4) STAFF
Prerequisites: English 2 and 3 or equivalents.

For students in the English department's honors program only.

197. Upper-Division Seminar
(4) STAFF
Prerequisites: English 2 and 3 or equivalents. Limited to upper-division English majors.

Content will vary with each instructor. Students will be asked to do a project that acquaints them with some of the resources of the library and results in their reading beyond the primary course materials.

199. Independent Studies in English
(1-5) STAFF
Prerequisites: English 2 and 3 or equivalents. Students must 1) have attained upper-division standing 2) have a minimum 3.0 grade-point average for the preceding 3 quarters 3) have completed at least two upper-division courses in English.

Reading and conference for students with upper-division standing.

199RA. Independent Research Assistance in English
(1-5) STAFF
Prerequisites: English 2 and 3 or equivalents. Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding 3 quarters; 3) have completed at least two upper-division courses in English; 4) have concent of instructor and department. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses. Students may apply a maximum of 8 units of 199/199RA coursework to the English major.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

200AA-ZZ. Methods of Literary Study
(4) STAFF
Prerequisites: graduate standing. Providing that letter designations are different, the course may be repeated for credit with the consent of the graduate adviser.

Course on literary theory and critical methods required for all graduate students in the department. Specific authors and topics vary from class to class.

201. Literary Criticism: Plato to Jonson
(4) STAFF

202. Literary Criticism: Dryden to the Present
(4) STAFF

English 201 is not prerequisite to 202.

205A. Old English
(4) STAFF
Prerequisite: graduate standing.

Introduction to the language, prose, and shorter poems.

205B. Old English
(4) STAFF
Prerequisites: English 205A, graduate standing. Beowulf.

205C. Old English
(4) STAFF
Prerequisites: 205A-B, graduate standing. May be repeated for credit with consent of the chair of the department graduate committee.

Topics in Old English literature.

206. The History of the English Language
(4) STAFF

207. The Structure of the English Language
(4) STAFF

208. Applied Rhetoric, Poetics, and Linguistics
(4) STAFF

The application of linguistic and rhetorical principles to the study of literature. Emphasis on practical criticism.

211. Studies in the History of Criticism
(4) STAFF
Prerequisite: graduate standing.

Rapid survey of the major theories from the Greeks to 1900 with special emphasis on British and American critics.

220. Theory of Composition
(4) STAFF
An examination of current theories of composition and their intellectual background with a review of recent research in the composing process and in related fields. Includes experiments and exercises in composing and in analyzing compositions, using written work of class members.

Contents of "studies" courses listed below will vary from quarter to quarter, there-fore, these may be repeated for credit with the consent of the chair of the department graduate committee.

230. Studies in Medieval Literature
(4) STAFF

231. Studies in Renaissance Literature
(4) STAFF

letter designations are different. Only 8 units of credit apply to the major.

Courses on writing produced by, or associated with, cultural communities in America such as Afro-American, Chicano, Asian-American.

135. The Puritan Tradition in American Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The development of the main ideas of American Puritanism.

136A. Seventeenth- and Eighteenth-Century American Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The first course in a sequence surveying the variety of developing traditions in American writing: from the beginnings through the revolutionary period.

136AS. Seminar on 17th and 18th Century American Literature
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 136A. Consent of instructor.

A seminar course for a select number of students enrolled in English 136A designed to enrich the large lecture experieence for the motivated student. Course will include either supplementary readings, or more intensive study of the English 136A reading list, as well as supplemental writing.

136B. Nineteenth-Century American Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Students who have received credit for English 136 may not repeat this course.

The second course in a sequence surveying the variety of developing traditions in American writing: from post-revolutionary to the modern period.

136BS. Seminar on 19th Century American Literature
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 136B. Consent of instructor.

A seminar course for a select number of students enrolled in English 136B designed to enrich the large lecture experience for the motivated student. course will include either supplementary readings, or more intensive study of the English 136B reading list, as well as supplemental writing.

136C. Twentieth-Century American Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

The third course in a sequence surveying the variety of developing traditions in American writing: modern to contemporary.

136CS. Seminar on 20th Century American Literature
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 136C. Consent of instructor.

A seminar course for a select number of students enrolled in English 136C designed to enrich the large lecture experience for the motiated student. course will include either supplementary readings, or more intensive study of the English 136C reading list, as well as supplemental writing.

137A. Poetry in America before 1900
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Developing traditions of American poetry within a variety of historical and cultural contexts: from the beginnings to the modern era.

137B. Poetry in America since 1900
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Developing traditions of American poetry within a variety of historical and cultural contexts: modern to contemporary.

138A. Prose Narrative in America before 1865
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Developing traditions of prose narrative within a variety of historical and cultural contexts: from the beginnings through the Civil War.

138B. Prose Narrative in America, 1865 to 1917
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Developing traditions of prose narrative within a variety of historical and cultural contexts: from the Civil War to World War I.

138C. Prose Narrative in America since 1917
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Developing traditions of prose narrative within a variety of historical and cultural contexts: from World War I to the present.

139. American Literature and the Changing American Landscape
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A study of literary responses to the American landscape. Reading and discussion of various American novelists, poets, and prose writers.

140. Contemporary American Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

An intensive study of American writing from World War II to the present.

144. The European Renaissance
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Helps to fulfill the English major requirement in foreign language (option 2).

Such authors as Petrarch, Boccaccio, Rabelais, Montaigne, Erasmus, More, and Machiavelli.

145. Studies in English Renaissance Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. May be repeated with permission of Department Chair to a total of 8 units if course content varies.

Studies in English literature of the period from 1500 to 1660. Topics will vary from quarter to quarter. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

150. Anglo-Irish Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A study of twentieth-century Irish literature written in English against a background of Irish history during the struggle for independence and later. Major emphasis on Yeats, Joyce, Synge, and O'Casey; other writers of the period, such as Stephens, O'Flaherty, O'Connor, and Behan, will also be touched on.

151AA-ZZ. Studies in British Writers
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Repeat credit will be given providing letter designations are different.

Courses in individual writers such as Spenser, Donne, Jonson, Dryden, Pope, Swift, Richardson, Fielding, Johnson, Blake, Wordsworth, Dickens, Lawrence, and Yeats.

152A. Chaucer: Canterbury Tales
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Intensive study of the Canterbury Tales.

152AS. Seminar on Chaucer: The Canterbury Tales
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. concurrent enrollment in English 152A. Consent of instructor.

A seminar course for a select number of students enrolled in English 152A designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 152A reading list, as well as supplemental writing.

152B. Chaucer: Troilus and Criseyde and the Minor Poems
(4) STAFF

Prerequisites: English 2 and 3, or equivalents.

153. Yeats, Pound, Eliot
(4) STAFF

Prerequisites: English 2 and 3, or equivalents.

Intensive study of Yeats, Pound, and Gliot.

154. British and American Verse Since 1900
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. May be repeated for credit with the permission of the Chairman, to a total of 12 units, if different material is covered.

A course in British and American verse since 1900.

157. English Renaissance Drama
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

A course in the English drama of the period from 1500 to 1642, excluding Shakespeare. Such writers as Marlowe, Jonson, Dekker, Heywood, and Webster.

160. Spenser
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Not open for credit to students who have completed 151S.

The works of Spenser, with primary focus on *The Faerie Queene.*

162. Milton
(4) STAFF

Prerequisites: English 1, 2, 3 or equivalents.

162S. Seminar on Milton
(1) STAFF

Prerequisites: English 2 and 3 or equivalents. Concurrent enrollment in English 162. Consent of instructor.

A seminar course for a select number of students enrolled in English 162 designed to enrich the large lecture experience for the motivated student. Course will include either supplementary readings, or more intensive study of the English 162 reading list, as well as supplemental writing.

165AA-ZZ. Topics in Literature
(4) STAFF

Prerequisites: English 2 and 3 or equivalents. Course may be repeated an unlimited number of times, providing the letter designations are different. Only 8 units of major credit will be allowed.

Studies of topics not limited to a specific author, period, or literary form. Specific course titles will be announced prior to the beginning of each quarter.

168. Restoration and Eighteenth Century Verse and Prose
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Non-dramatic works by such writers as Dryden, Pope, Swift, Cowper, Gray, Johnson, and Boswell.

169. Restoration and Eighteenth-Century Drama
(4) STAFF

Prerequisites: English 2 and 3 or equivalents.

Such dramatists as Dryden, Etherege, Wycherley, Congreve, and Sheridan.

172. Studies in the Enlightenment
(4) STAFF

Prerequisites: English 2 and 3 or equivalents; may be repeated with permission of Department Chair to a total of 8 units if course content varies.

A course in the neoclassical literature of England and the Continent. Topics will vary from quarter to quarter. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

232. Studies in Restoration and Eighteenth-Century Literature
(4) STAFF

233. Studies in Nineteenth-Century Literature
(4) STAFF

234. Studies in Twentieth-Century Literature
(4) STAFF

235. Studies in American Literature
(4) STAFF

236. Studies in Literary Criticism and Theory
(4) STAFF

237. Studies in Genres, Themes, Approaches
(4) STAFF

238. Scholarly Editing
(4) STAFF

An introduction to the theory and practice of modern scholarly editing, using examples drawn from both literary and historical documents.

265AA-ZZ. Seminar in Special Topics
(4-4) STAFF
Prerequisite: graduate standing. Providing that the letter designations are different, the course may be repeated for credit with the consent of the graduate adviser.

Content of two-quarter course will vary from year to year.

270. Studies in Poetry
(4) STAFF

271. Studies in Drama
(4) STAFF

272. Studies in Fiction
(4) STAFF

297. Graduate Studies
(4) STAFF
Prerequisite: graduate standing. Maximum of 4 units will count towards M.A. degree with consent of the graduate adviser. No unit credit allowed toward Ph.D. degree.

Graduate tutorial involving regular conferences with instructor and directed research toward seminar paper(s). Attendance at relevant upper-division lectures also required.

590. Workshop on Scholarly Publication
(2-4) STAFF
Prerequisite: graduate standing.

Workshop to help graduate students prepare papers for submission to scholarly journals.

596AA-ZZ. Directed Reading and Research
(1-4) STAFF
Prerequisite: graduate standing.

Individual tutorial. A written proposal for each tutorial must be approved by the graduate adviser.

597. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations
(1-12) STAFF
Maximum of 12 units per quarter. S/U grade. Enrollment limited to 24 units per examination. No unit credit allowed toward advanced degree(s).

Instructor should be the student's major professor or the chair of the doctoral committee.

598. Directed Teaching
(4) STAFF
Prerequisite: appointment as a teaching assistant.

Supervision and instruction of teaching assistants. Teaching assistants must register for this course. No unit credit allowed toward advanced degrees.

599AA-ZZ. Dissertation Research and Preparation
(1-12) STAFF

Only for research underlying the dissertation, writing the dissertation.

Related Courses in Other Departments

Education SE 390. Curriculum and Instructional Procedures and Materials Used in Teaching English in the Secondary School
(1) STAFF
Prerequisites: admission to secondary credential program in English. Three quarters required.

Seminar for student teachers in classroom application of educational theory to the teaching of English.

Education SE 394. Current Trends in the Teaching of English
(4) STAFF

Seminar, limited to experienced teachers of English, aiming to reassess the goals and methods for the teaching of English.

Education SE 396. Writing Project Approaches to Teaching Composition
(1-6) STAFF

Approaches to teaching composition at all levels and in all disciplines. Features demonstrations of proven techniques by fellows, staff, professional authors, and visiting scholars from the South Coast Writing Project. Includes examination of theory and research base for practices.

Linguistics 160. The Structure of English
(4) STAFF
Prerequisite: Linguistics 20 or 101 or consent of instructor.

Introduction to the phonological, morphological, syntactic, and discourse features of contemporary English. Some elementary linguistic ideas are introduced and discussed in relation to the problems of teaching oral and written English.

English as a Second Language

English as a Second Language Program,
South Hall 4522;
Telephone (805) 893-7258

The English as a Second Language (ESL) program offers courses for undergraduate and graduate students for whom English is not the first language. The primary goal of the ESL program is the preparation of students for participation in an American academic community. The ESL program does not lead to any degree or certificate, but the courses within it are open to qualified students, visiting scholars, and professors from any department. All incoming graduate students whose first language is not English are required to take the written and oral English Language Placement Examination (ELPE). Placement in ESL courses is based on students' performance on these examinations. In addition, all prospective teaching assistants are required to take the TA Language Evaluation in order to be certified for sole classroom teaching responsibility.

New undergraduates whose first language is not English may be required to enroll in ESL courses as determined by their performance on the written ELPE or Subject A Placement Examination. Students placed in these ESL courses must successfully complete them before they can enroll in the required freshman writing sequence.

See the Department of Linguistics entry in this catalog for a listing of courses. Contact the ESL program for course descriptions, schedule of classes, examination dates, and further information.

Environmental Studies

Environmental Studies Program,
Division of Mathematical, Life, and Physical Sciences,
Phelps Hall 3206;
Telephone (805) 893-2968
Program Chair: Roderick F. Nash

Faculty

David Brokensha, D. Phil., Oxford University, Professor Emeritus

Garrett Hardin, Ph.D., Stanford University, Professor Emeritus

Edward A. Keller, Ph.D., Purdue University, Professor *(environmental geology, geomorphology)*. Joint appointment with the Department of Geological Sciences.

Charles D. Kolstad, Ph.D., Stanford University, Professor *(environmental and resource/energy economics)*. Joint appointment with the Department of Economics.

Theodore T. Kozlowski, Ph.D., D.Sc., Duke University, Adjunct Professor *(physiological ecology of plants)*

Hugo A. Loaiciga, Ph.D., UC Davis, Associate Professor *(water resources, surface and groundwater hydrology)*. Joint appointment with the Department of Geography.

Melvyn S. Manalis, Ph.D., UC Santa Barbara, Lecturer *(energy, computer use for the environmental studies major)*

J. Marc McGinnes, J.D., UC Berkeley, Lecturer *(environmental law and policy)*

Roderick F. Nash, Ph.D., University of Wisconsin, Professor *(environmental history)*. Joint appointment with the Department of History.

Michael A. Osborne, Ph.D., University of Wisconsin, Assistant Professor *(history of science)*. Joint appointment with the Department of History.

Arent H. Schuyler, Jr., M.A., UC Santa Barbara, Lecturer Emeritus

Susan C. Stonich, Ph.D., University of Kentucky, Assistant Professor *(Third World environmental problems)*. Joint appointment with the Department of Anthropology.

(In addition to the regular faculty, outside professionals who are not listed in the catalog teach courses in the Environmental Studies Program.)

The environmental studies curriculum is designed to give students the intellectual skills and scholarly background needed to understand the interactions between humans and their environment. The process is interdisciplinary, drawing upon the resources of many related fields to provide the rigorous analysis necessary to understand environmental problems.

The Program in Environmental Studies offers a bachelor of arts degree in environmental studies with two emphases: (1) social science/humanities; and (2) natural sciences. Many environmental studies graduates go on to graduate school for further study in areas such as public policy, city or regional planning, social sciences, law, education, or physical, chemical, and biological science.

The environmental studies major has prepared students for entry-level positions in diverse fields, including urban and regional planning, environmental impact analysis, natural resource management, environmental education, conservation administration, energy policy, public interest lobbying, government, and business. Employment opportunities often result from a synthesis of coursework and supervised internships in a chosen career area. While not required, academic internships are an integral part of the environmental studies curriculum.

Completion of a senior thesis is highly recommended, but not required. Enrollment in the thesis course (Environmental Studies 197) is limited to seniors with a minimum 3.25 cumulative grade-point average or approval of the program chair. The thesis course involves independent research and writing on an environmental issue and culminates in a final oral presentation to faculty and students.

Specialized writing classes from the English 110E series are linked to some departmental offerings each year. These classes are designed to increase the student's ability to write good papers; writing assignments are based on the subject matter of environmental studies. Information about these offerings is available in advance of each quarter from the Interdisciplinary Writing Program.

Students with a particular interest in environmental education may wish to pursue a California teaching credential after completing the requirements for the bachelor's degree in environmental studies. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

The program welcomes transfer and continuing students. In some cases credit toward the major requirements can be given for courses previously taken.

Bachelor of Arts—Environmental Studies—Social Science/Humanities Emphasis

The major is divided into three parts: preparation for the major, upper-division requirements within environmental studies, and outside concentration.

Preparation for the major. Required: Environmental Studies 11, 12, and 13; Anthropology 2; Economics 1 or 109; Geology 2 or 170 or Geography 3 or 5; History 17C or 7; Political Science 3, 12, or 100; Mathematics 34A-B and PSTAT 5A; Chemistry 1A-B-C, 1AL-BL-CL; *or* Chemistry 25 or Natural Science 1B and Chemistry 101.

Upper-division requirements within environmental studies. All environmental studies majors must take 9 required units and 28 elective units for a total of 37 units within the environmental studies major. Required upper-division units are: Environmental Studies 115, 106, 190. The 28 units of elective courses should be selected in consultation with the undergraduate adviser to constitute a plan of study in areas such as environmental planning, natural resource management, environmental law, energy, and Third World studies. No more than 8 units may be chosen from Environmental Studies 192, 194, and 199 combined.

Outside concentration. Environmental studies majors must complete an outside concentration consisting either of 20 upper-division units of classes taken in another department within the College of Letters and Science (a double major will satisfy this requirement); or of 20 upper-division units of classes outside environmental studies constituting a plan of study approved by the undergraduate adviser. A list of upper-division outside courses that satisfy this requirement is available from the undergraduate adviser.

Bachelor of Arts—Environmental Studies—Natural Sciences Emphasis

The major is divided into three parts: preparation for the major, upper-division requirements within environmental studies, and upper-division courses in related areas.

Preparation for the major. Required: Environmental Studies 11, 12, 13; Economics 1 or 109; Geology 2 or Geography 3; Mathematics 3A, 3B, 3C, 5A; Physics 1, 2, 3, 3L or 6A, 6AL, 6B, 6BL, 6C, 6CL; Chemistry 1A, 1AL, 1B, 1BL, and 1C, 1CL or 101; Biology 4A-B-C; PSTAT 5A or 130A or Biology 30.

Upper-division requirements. All environmental studies majors in the natural sciences emphasis must complete 13-14 units in required courses: Geography 172A and 172AL or PSTAT 133B or Biology 146A and Environmental Studies 115, 106, 190.

In addition, students pursuing the natural sciences emphasis must also complete an additional 44 units, 24 of which are selected from upper-division environmental studies courses, with the remaining 20 forming an outside concentration of 20 upper-division units of coursework in related departments. The 24 upper-division environmental studies units may be selected from: Environmental Studies 105, 120, 125, 134, 135A-B, 138, 140, 144, 162, 163, 165A-B, 177, 192, 194, 197, and 199. No more than 8 units may be chosen from Environmental Studies 192, 194, and 199 combined.

The outside concentration may be composed of 20 upper-division units from one of the following science departments (completion of a double major from one of the following departments will satisfy): biological sciences, chemistry, geography (systematics and techniques courses only), geological sciences, mathematics, or physics. *Note: Geology 101 and Mathematics 100A-B will not apply.* Alternatively, the outside concentration may be interdisciplinary, including 20 units from the following: Biology 118, 119A, 130C, 145A-B-C, 159, 180, 183; Botany 141, 142; Chemistry 113A-B-C, 130A-B-C, 150, 150L; Economics 115, 122; Geography 112, 115A-B-C, 116, 116L, 169, 170, 170L; Geology 170, 113, 117. Approval to apply courses not listed above to the outside concentration may be given after consultation with the undergraduate adviser.

Environmental Studies Courses

LOWER DIVISION

11. The Social Environment

(4) NASH

Lecture, 3 hours; discussion, 1 hour.

An interdisciplinary and problem-oriented effort to understand how human beings and the environment have interrelated throughout history. Topics include Native Americans, pioneers, the conservation movement, environmental ethics, California water problems, and the environmental effects of nuclear war. (F)

12. The Physical Environment

(S) KELLER, MANALIS

Recommended: Chemistry 25 or 1, Physics 10 or 6. Lecture, 4 hours; discussion, 2 hours; field trips.

Introductory examination of land, water, and air problems resulting from human occupancy of the earth's surface. Emphasis is on urbanization and associated environmental problems. Topics include air and water pollution, urban climate, hazards evaluation, and energy sources and uses. (W)

13. The Biological Environment

(S) STAFF

Recommended: Chemistry 25 or 1A/AL, Physics 10 or 6A/AL, Biology 20 or 4B. Lecture, 3 hours; laboratory, 3 hours.

A study of general principles of ecology and their implications for analyzing environmental problems. Topics include the nature of the biosphere, ecosystem structure and function, and population dynamics. Case histories will be discussed that demonstrate the application of these concepts to the management of renewable natural resources (S)

21. Future Environments

(4) MCGINNES

Presently observeable global effects of human activities raise important questions about the future. The class will examine and analyze conflicting authoritative and representative views on the implications of global change using an interactive computer communications program. (F)

UPPER DIVISION

104. People, Poverty, and Environment in Central America

(4) STONICH

Prerequisite: Anthropology 2. Same course as Anthropology 104H.

Analysis of the interrelated social, demographic, economic, political, and environmental crises occurring in Central America from and anthropological perspective. Emphasis is on the evolution of contemporary problems, current conditions, and future prospects for the region.

105. Solar Energy and the Environment

(4) MANALIS

Prerequisite: Mathematics 3A-B-C or 34A-B and one course from the general education science area.

How solar energy fits with environmental-energy options in both developed and developing nations is a focus of the course. Direct and indirect technologies are studied in terms of their effects on the physical, social, economic, and utility environments. There will be demonstrations, field trips, and guest lecturers.

106. Critical Thinking and Environmental Argument

(4) STAFF

Prerequisites: consent of instructor. Philosophy 3 is *recommended.*

A study of the skills involved in criticizing and constructing effective environmental arguments; specifically focusing on reasoning, decision-making, and values. Concentrating on specific environmental issues, students will learn to develop effective and sustained arguments for their own positions. (W)

107. History of Global Environmental Problems

(4) OSBORNE

Prerequisites: upper-division standing or consent of instructor or one of the following: History 106C, History 109B, History 107C, or History 105. Same course as History 107PE.

Students produce and present to the group a research paper on a topic of their choice on the history of environmental problems of global import.

111. The California Channel Islands

(4) STAFF

Prerequisite: Environmental Studies 12 or 13 or Geography 3 or consent of instructor. Students who have received credit for Environmental Studies 112A may not take this course for credit. Lecture, 3 hours.

Discussion of biological, geological, meteorological, anthropological, and oceanographic characters of the Channel Islands area, as well as the management and conflicting human uses of this region. Detail is given to the islands and ocean waters found off Southern California. (F)

115. Energy and the Environment

(4) MANALIS

Prerequisite: Environmental Studies 12; Mathematics 3A-B-C or 34A-B; Economics 1 or 109. Lecture, 3 hours; discussion, 1 hour.

Survey of our present and future use of energy as it relates to the environment. Technical problems, environmental effects and economic costs of each energy source are considered. The application of elementary thermodynamics to energy and the environment are studied. (W)

116. The Urban Environment

(4) STAFF

Lecture, 3 hours.

A survey of the problems of and prospects for the American urban environment, including an investigation of the complex relationships between the central city and its suburbs and rural communities. Field study of the local urban environment will be part of the course. (F)

120. Toxics in the Environment

(4) STAFF

Prerequisites: Environmental Studies 11, 12, 13; Mathematics 3A-B-C or 34A-B; Economics 1 or 109; introductory chemistry and statistics. Recommended: electives in biology, biochemistry, pharmacology.

Effects and implications for the future of introducing toxins into the biosphere. Physiological and biochemical effects and the mechanisms of action of potential toxins will be examined. Methodological approaches and legal ramifications of studies in environmental toxicology will be discussed. (F)

122. World Population and Food Supply

(4) STAFF

Lecture, 3 hours.

The main purpose of this course is to analyze the underlying causes of the world food/population problem. Such topics as high birthrates in underdeveloped nations and environment implications of different agricultural and population strategies will be considered. (F)

124. Environmental Dispute Resolution

(4) MCGINNES

Prerequisite: Environmental Studies 11 and consent of instructor. Lecture, 3 hours.

An examination of the history and methodology of conflict resolution alternatives, such as negotiation and mediation, as applied to environmental disputes. (S)

125. Principles of Environmental Law

(4) MCGINNES

Prerequisite: Environmental Studies 11 or consent of instructor. Lecture, 3 hours.

An introduction to the history and methodology of law as it relates to human use of the environment. (F)

126A. Environmental Law: Simcoast

(4) MCGINNES

Prerequisites: Environmental Studies 125 and consent of instructor. Seminar, 3 hours.

Simulation of the planning and permitting process under current coastal protection laws. Students play roles in game situations based on actual cases from legal dockets.(W)

127. Concepts of Environmental Education

(4) STAFF

Prerequisites: Environmental Studies 11, 12, and 13, or consent of instructor. Lecture, 3 hours.

A critical look at educational programs and teaching methods which concentrate on the development of environmental awareness and the shaping of environmental values. Understanding underlying concepts. Focus on programs which emphasize study of the natural environment and problem-solving skills. (S)

128. Land Use and Planning Law

(4) MCGINNES

Prerequisite: Environmental Studies 125. Lecture, 3 hours.

An examination of local, state, and federal laws regulating land use and development. Selected problems analyzed through case studies. (Not offered 1993-94)

130A-B. Third World: Environments and Prospects

(4-4) STONICH

Prerequisites: Environmental Studies 11,12,13 or consent of instructor. Same course as Anthropology 130A-B.

Two quarters of a three-quarter sequence. The first part emphasizes the rural areas, the second the urban and industrialized sectors. Both parts use selected case studies to illustrate such problems as use of major resources (water, land, plants, animals) and new issues arising from increased population, urbanization, and development interventions. (W,S)

130C. Specialized Environmental Problems of the Third World

(4) STAFF

Prerequisites: Environmental Studies 130A-B, or consent of instructor. Seminar, 3 hours.

Seminar papers presenting in-depth analysis relevant to student's own major of topics and areas of Third World/less developed countries environmental issues and problems. Topics chosen by students with guidance and help of instructors.

131. International Environmental Law

(4) MCGINNES

Lecture, 3 hours.

An examination of the role of international law in addressing environmental issues and problems. Historical, theoretical, and practical aspects explored through case studies. (S)

132. Human Behavior and Global Environment

(4) STAFF

Study of global environmental impacts of major human technological innovations, including the use of fire, development of agricultural tools, and the process of industrialization. Evaluation of prospects for altering human behavior to encourage sustainable development is included.

134. Coastal Processes and Management

(4) KELLER

Prerequisite: Environmental Studies 12; Mathematics 3A-B-C or 34A-B; Geology 2 or Geography 3; or consent of instructor.

Using representative coastal regimes, students will study the major processes at work in our nation's coastal zones and will examine the nature and efficacy of the planning and management programs that have been put in place in these areas.

135A. Principles of Environmental Planning

(4) STAFF

Prerequisite: Environmental Studies 116 or consent of instructor. Lecture, 3 hours.

Introduction to the history, theory, and trends of urban, regional, and environmental planning in both California and the United States. Field trips to local urban areas. (W)

135B. Advanced Environmental Planning

(4) STAFF

Prerequisite: Environmental Studies 135A. Lecture, 3 hours.

Advanced seminar applying principles presented in Environmental Studies 135A to regional and local government planning processes. Field analysis of local planning issues. (S)

138. Economics of Land Use

(4) STAFF

Prerequisites: Economics 1 and 2, or Economics 109 or consent of instructor. Lecture, 3 hours.

Economic analysis of the use of land-based natural resources for agriculture, housing, and recreation. Public policy issues such as growth control, zoning, and coastal protection will be included in the analysis. (W)

140. Management of Renewable Resources: Biological Principles and Techniques

(4) STAFF

Prerequisites: Environmental Studies 13; Mathematics 3A-B-C or 34A-B and upper-division standing; or consent of instructor.

The course will offer an introduction to the ecological principles common to wildlife, range, and forest management, followed by a discussion of the historic development of these disciplines and a survey of management practices and applications. Case studies and field trips. (W)

144. Form, Process, and Human Use of Rivers

(4) KELLER

Prerequisites: Mathematics 3A-B-C or 34A-B; Geology 117; Geography 112 and 113; or consent of instructor. Same course as Geography 144.

Basic understanding of fluvial (river) hydrology. In-depth evaluation of channel form and fluvial processes and impact of human use on rivers.(F)

158. Advanced Environmental Ethics

(4) NASH

Prerequisites: Environmental Studies 11 and consent of instructor. Lecture, 3 hours.

Value problems and societal conflicts. Emphasis is on logical/methodological analysis of two types of ethical problems: how to resolve conflicts between social justice and environmental well-being; and how to evaluate the ethics of proposed solutions to environmental problems. (S)

161. Environmental Journalism: A Survey

(4) STAFF

Prerequisite: Environmental Studies 11, 12, and 13, or consent of instructor.

A study of how environmental issues are and should be reported by all types of news media. Students will be assigned to write several environmental news and feature stories.

162. Waste Management and the Environment

(4) STAFF

Prerequisites: Environmental Studies 11, 12, 13, introductory chemistry and microeconomics; or consent of instructor. Electives in biology, biochemistry, natural resources economics are recommended.

Introduction to the physical, biochemical, economic, sociological, and policy aspects of the waste stream. Focus will be on integrated and hazardous waste management, with an emphasis on future directions. (F)

163. Environmental Analytical Methods
(4) STAFF

Prerequisites: Environmental Studies 11, 12, and 13; Chemistry 25 or 1A-AL; or consent of instructor.

Analysis of the tools and techniques used to assess the multi-media (air, water, and water) impacts from pollution sources. Emphasis on the principles of environmental auditing in evaluating compliance with applicable environmental laws and regulations.

165A-B. Environmental Impact Analysis
(4-4) STAFF

Prerequisites: Environmental Studies 11, 12 and 13 or consent of instructor for 165A. Environmental Studies 165A and consent of instructor for 165B. A: lecture, 3 hours. B: seminar, 3 hours

A: Analyzes the historical and theoretical approaches to environmental assessment methodology and procedures for preparing and reviewing environmental impact reports. (F)

B: Advanced seminar focuses on environmental inventories, proposals, and environmental impact report analysis and preparation. (W)

170. Environmental Geology
(4) KELLER

Prerequisites: Geology 2, 4, or Geography 3, or Environmental Studies 12, or consent of instructor. Same course as Geology 170. Not open for credit to students who have completed Geology 106. lecture, 3 hours; field trip required.

Introduction to the entire spectrum of possible interactions between people and the geologic environment with emphasis on natural hazards, resources, and land-use planning.

173. American Environmental History
(4) NASH

Prerequisites: Environmental Studies 11, or any lower-division course in history, or consent of instructor. Same course as History 173T. lecture, 3 hours.

Traces the history of American atitudes and behavior toward nature. The focus is on wilderness, the conservation movement and modern forms of environmentalism.

177. Advanced Environmental Economics
(4) STAFF

Prerequisite: Economics 115, or consent of instructor. Lecture, 3 hours.

The course emphasis is on the economic analysis of contemporary environmental problems and the policy alternatives for their solution. Topics may include toxic substances, acid rain, endangered species, and recreation valuation. (S)

181. Canyonlands Seminar
(4) NASH

Prerequisites: History 173T, upper-division standing, consent of instructor. Seminar, 3 hours. Field trip will be required.

Study of the environmental characteristics of the desert canyonlands of Arizona and Utah with an emphasis on the history of, and policy alternatives for, one of the nation's fastest developing regions. (S)

190. Current Topics in Environmental Studies
(1) STAFF

Prerequisites: Environmental Studies 11, 12, and 13. This course is required by majors for graduation. May be repeated for credit to a maximum of 2 units. Discussion, 3 hours

Required attendance at five public lectures dealing with environmental topics. Weekly discussion sections on the lectures and brief written evaluations of the three lectures which, in the student's judgement, were the best. (S)

192. Internship in Environmental Studies
(1-12) STAFF

Prerequisites: upper-division status, 3.0 overall grade-point average, environmental studies majors only, approval by department. May be repeated for credit to a maximum of 12 units but only 4 units count toward the major; offered P/NP only. Variable hours.

Opportunities to learn about practical approaches to environmental problem solving by working under faculty direction as interns with local, state, and federal agencies concerned with the environment or with private research and business organizations. Periodic and final reports will be part of the internship. (F,W,S,SS)

194. Group Study
(1-5) STAFF

Prerequisites: upper-division status or consent of instructor. Admission by special arrangement with the environmental studies committee chair. May be repeated for credit three times but no more than 4 units may be counted toward the major. Discussion, 3 hours.

Directed group reading and study on specific subjects for environmental studies majors.

197. Senior Thesis
(6) STAFF

Prerequisites: consent of instructor and department approval must be obtained prior to enrollment. All lower-division major classes must be completed before enrollment. Required of all environmental studies majors, normally taken in the senior year.

After an acceptable topic and advisor have been established, each class member will develop, write, and present a thesis.

199. Independent Investigation in Environmental Studies
(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in environmental studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Open only to students majoring in environmental studies who are approved by the committee chair. No more than 4 units may be counted toward the major.

Directed research in the characteristics and problems of the environment. (F,W,S)

Film Studies

Film Studies Program,
Division of Humanities and Fine Arts,
Ellison Hall 1710;
Telephone (805) 893-2347
Program Chair: Edward Branigan

Faculty

Edward Branigan, Ph.D., University of Wisconsin, Madison, Professor *(film theory)*

Dana Driskel, M.F.A., University of Southern California, Lecturer *(film production)*

Natasa Durovicova, M.A., UC Santa Barbara, Acting Assistant Professor *(national cinemas, cultural studies)*

Paul Lazarus, A.B., Cornell University, Lecturer *(screenwriting)*

Constance Penley, Ph.D., UC Berkeley, Associate Professor *(feminism and film theory)*. Joint appointment with Women's Studies.

Alexander Sesonske, Ph.D., UC Los Angeles, Professor Emeritus

Charles C. Wolfe, Ph.D., Columbia University, Associate Professor *(film history and criticism)*

Advisory Committee

Edward Branigan, Ph.D. (Film Studies)

Natasa Durovicova, M.A. (Film Studies)

Victor F. Fuentes, Ph.D. (Spanish)

Naomi Greene, Ph.D. (French)

Harry Lawton, M.A., B. Litt. (Italian)

Suzanne Jill Levine, Ph.D. (Spanish)

Constance Penley, Ph.D. (Film Studies / Women's Studies)

Laurence A. Rickels, Ph.D. (German)

Garrett Stewart, Ph.D. (English)

Charles C. Wolfe, Ph.D. (Film Studies)

Devoted to the study of film as a humanistic discipline, the multi-departmental film studies program at UCSB has as its primary emphasis film history, film theory, and film analysis. In addition to requirements for the major, a wide variety of electives is also offered, ranging from courses in national cinemas and important directors and genres to seminars on special topics. Production is not emphasized, but all majors become familiar with the basic tools of filmmaking. Interested students may also take courses in screenwriting and advanced film production.

Requirements for the film studies major are flexible and can be structured to meet the student's interests. In consultation with a faculty adviser, the student may develop an individual program centered around special interests and goals. Students who wish to know more about the film studies major are invited to make an appointment in the film studies office to talk with an adviser.

The film studies major is designed to prepare students for graduate study in film and related fields, and for careers in teaching, library science, and certain government positions, as well as such related areas as publishing and television.

Additional French language courses are recommended for students interested in spending their junior or senior year with Education Abroad's Paris Film Program. Those students interested in national cinemas should also consider taking appropriate language courses.

After completing specific prerequisites, students with a bachelor's degree in film studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Bachelor of Arts—Film Studies

Preparation for the major. Required: Film Studies 46. One literature or drama course chosen from Drama 60, 155, 156, 160D-E-F, 161B; English 114AA-ZZ, 120, 126D,136C, 138C, 139, 140, 184, 187, 189, 191, 192, 193; French 180X, 183X, 188X; Italian 106Z, 130X, 139Y-Z; German 163, 173, 174, 174E, 182, 185, 192; Spanish 115B, 120A-B. One history course chosen from History 4C, 101B, 123B, 127, 128A-B, 134, 135C, 137, 147, 150B, 151C, 159B-C, 166A-B, 169B, 173B, 175B; one music course chosen from Music 15, 16, 17, 112F, 114, 167, 170, 177, 184, 186, 194A; one art history course chosen from Art History 6C, 149A, 150, 159F-G, 160A-B-C-D-H, 161B-C-F-G-H-P, 170A-B-C-D.

Upper-division major. Required: Forty-eight upper-division units including (1) Film Studies 101A-B-C; one production course chosen from Film Studies 102, 104, 107; Film Studies 146 and 192; and (2) 24 additional upper-division units chosen from the following, with at least 4 units each from A, B, and C.

A. Seminars in Theory and Analysis: Film Studies 187AA-ZZ (may be repeated), 189AA-ZZ (may be repeated), 190AA-ZZ (may be repeated), 191, 193, 194 (may be repeated), 196.
B. National Cinemas: Black Studies: 171; Film Studies 120, 121, 123, 132, 133, 136, 137; French 178X-Y-Z; German 136, 160D, 180Z; Italian 180Y-Z; Portuguese 128; Spanish 126, 127.
C. Film and Social Issues: Black Studies 161, 170, 172; Film Studies 125A-B, 161, 163, 165; French, 191X.
D. Other Electives: *Directors*—Film Studies 154, 155AA-ZZ. *Genre*—Film Studies 107, 128, 130, 140, 142, 143, 144, 145, 147, 150AA-ZZ, 169, 170, 175. Screenwriting—Film Studies 188A-B. Other—Film Studies 110, 151A-B-C-D-E, 184.

Honors Program

The honors program provides the opportunity for qualified majors to undertake advanced film research or write a screenplay. Through successful performance in the honors program a student may achieve the degree award of Distinction in the Major.

Majors who have completed two quarters of the junior year with a minimum grade-point average of 3.3 will be invited by the Film Studies Program to apply for admission to the honors program. The application includes: (1) a 500-word prospectus, outlining the nature and scope of the honors project and the plan for carrying it out; and (2) a statement of sponsorship from the faculty member who will supervise and evaluate the project due no later than the tenth week of classes for admission to the program in the following quarter.

The project is to be a research or critical essay of not fewer than 40 pages or a comparable project in the form of a screenplay. The program is comprised of two related courses (4 units each) to be taken in two quarters of the senior year. These must be taken consecutively. The first course is Independent Studies (Film Studies 199), which must be taken for a grade and will not count as a film studies elective. During the course the student, guided by the sponsoring faculty member, completes the required research and submits for formal evaluation a draft of the essay or creative work. The second course is a senior honors seminar (Film Studies 196) during which the student completes the honors project; this course may be used as a film studies elective. Exceptional theses may be published in abridged form in the film studies journal, *Focus*, or in the undergraduate research journal, *Discovery*.

Projects may be undertaken either fall and winter quarters, or winter and spring quarters. Sixteen millimeter films will not be accepted for honors projects. Screenplays will not be approved unless the applicant has already taken Film Studies 188A.

Offerings in Film Studies Grouped by Subject Matter

I. Lower Division
  46. Introduction to Cinema
  46MS. Major Seminar
  54. The Anatomy of "The Industry"
  99. Independent Studies

II. Film Production
  102. Acting and Directing Workshop
  103. Project Development for the Short Film
  104. Film Technology
  105. Beginning Film Production
  106A-B. 16mm Production
  107. Animation
  109AA-ZZ. Special Topics in Film Production
  188A. Basic Screenwriting
  188B. Advanced Screenwriting

III. History
  101A. History of Cinema: The Silent Film
  101B. History of Cinema: The Advent of Sound Film
  101C. History of Cinema: Neorealism and After
  110. The Hollywood Studio

IV. Period Cinema
  151A. American Film: The 1930s
  151B. American Film: The 1940s
  151C. American Film: The 1950s
  151D. American Film: The 1960s
  151E. American Film: The 1970s

V. National Cinemas
  120. Japanese Cinema
  121. Chinese Cinema
  123. German Cinema
  132. French New Wave Cinema
  133. Soviet Cinema, 1917 to 1945
  136. British Cinema
  137. Eastern European Cinema

VI. Directors
  154. European Directors in Hollywood
  155AA-ZZ. Directors

VII. Documentary/Social Reality
  125A-B. Documentary Film
  161. Third World Cinema
  163. Women and Film: Feminist Perspectives
  165. Film and Social Reality

VIII. Genre
  107. Animation
  128. Silent Film Comedy
  130. Sound Film Comedy
  140. The Western
  142. The War Film
  143. Science Fiction Film
  144. The Horror Film
  145. Melodrama
  147. The Thriller
  150. Topics in Film Genre
  169. Film Noir
  170. The Musical Film
  175. Experimental Film

IX. Analysis
  146. Advanced Film Analysis
  184. Film Music
  187AA-ZZ. Special Topics in Film Analysis
  190AA-ZZ. Studies in Film and the Other Arts
  193. Film Narrative

X. Theory and Criticism
  189AA-ZZ. Topics in Contemporary Film Theory
  191. Film Criticism
  192. Film Theory

XI. Advanced Studies
  194. Advanced Readings
  196. Senior Honors Seminar
  199. Independent Studies
  199RA. Independent Research Assistant in Film Studies

Film Studies Courses

A list of film courses with descriptions will be posted outside the film studies office before the beginning of each new quarter, as close to the start of registration as possible. Students are urged to consult this list before registering.

LOWER DIVISION

46. Introduction to Cinema
(4) STAFF
Prerequisite: concurrent enrollment in Film Studies 46MS is highly recommended for film studies majors.

An introduction to the study of film as an aesthetic and social phenomenon, and to various methods of critical analysis. (F,W,S)

46MS. Major Seminar
(2) STAFF
Prerequisites: concurrent enrollment in Film Studies 46 and consent of instructor.

Designed for film studies majors and students contemplating a major or concentration in film. An intensive introduction to the study of film and to various methods of critical analysis.

54. Hollywood: Anatomy of an Industry
(2) STAFF

In-depth analysis of the changing cinema world of the 1990s developed in intimate dialogues with major Hollywood players. Focus may be on areas such as escalating production costs, diversification, colorization of film, the foreign market, directing, screenwriting, acting, etc.

99. Independent Studies
(1-4) STAFF
Prerequisites: (1) minimum 3.0 cumulative grade-point average; (2) consent of instructor and department. May be repeated for credit to a maximum of 8 units. No unit credit allowed toward the major.

Selected research under the direction of a faculty member.

UPPER DIVISION

101A. History of Cinema: The Silent Film
(4) STAFF
Prerequisite: Film Studies 46; open to film studies majors only.

International film history from the camera obscura to the close of the silent era in the late 1920s. Historical accounts of film as an aesthetic form, a social force, an economic institution, and a technology will be considered. (F)

101B. History of Cinema: The Advent of Sound Film
(4) STAFF
Prerequisite: Film Studies 46; open to film studies majors only.

International film history from the advent of talkies to World War II. Historical accounts of film as an aesthetic form, a social force, an economic institution, and a technology will be considered. (W)

101C. History of Cinema: Neorealism and After
(4) STAFF
Prerequisite: Film Studies 46; open to film studies majors only.

International film history since 1945. Historical accounts of film as an aesthetic form, a social force, an economic institution, and a technology will be considered. (S)

102. Acting and Directing Workshop
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Designed as an introduction to the fundamentals and interaction of acting and directing in the creative process of producing a film or video. Every student will write, perform in, direct, and record on video a short work.

103. Project Development for the Short Film

(4) STAFF

Prerequisite: Film Studies 46 and Film Studies 104, 105, or 106A and 106B and consent of instructor.

A workshop approach to the development of a short film project. Course covers writing, budget, preparation, and preproduction, with particular attention to final distribution needs.

104. Film Technology

(4) DRISKEL

Prerequisite: Film Studies 46.

An introduction to the technology, equipment, and materials of filmmaking from Edison to computer graphics. Special attention to the historical breakthroughs that have influenced cinematic trends and directions.

105. Beginning Film Production

(4) DRISKEL

Prerequisites: Film Studies 46, and 104 or 107. Film studies majors only. Consent of instructor.

An introduction to filmmaking. Basics of camera, lighting, editing, and sound using the 16mm format.

106A-B. 16mm Production

(4-4) DRISKEL

Prerequisites: Film Studies 105; consent of instructor.

Instruction in the basic techniques of 16mm filmmaking via the production of crew projects over two consecutive quarters.

A: Preproduction through principal photography. (F)

B: Postproduction through composite print. (W)

107. Animation

(4) DRISKEL

Prerequisite: Film Studies 46 or upper-division standing.

A look at the techniques and history of animation with emphasis on the major styles and methods of production, including cell, direct, photo, three-dimensional, and computer. Close examination of significant films combined with production of a 16mm class project.

109AA-ZZ Special Topics in Film Production

(4) STAFF

Prerequisites: Film Studies 46 and consent of department. Course may be repeated for credit to a maximum of 8 units; only 4 units may be applied to the major.

Taught by a visiting artist, course will focus on one or more aspects of film production such as music, writing, directing, design, acting, independent filmmaking, cinematography, producing. Topics will vary.

110. The Hollywood Studio

(4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

The effects of studio domination on American cinema and the ethos of the nation from the thirties to the sixties. Developing trends in film form and content, studio production methods, star values, and censorship are surveyed.

120. Japanese Cinema

(4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

An introductory scrutiny of major Japanese directors: Mizoguchi, Ozu, Oshima, and Kurosawa. Close attention to their film composition, choices of subject and character, their ideas of the cinematic, and the relationship of cinema to Japanese culture and society.

121. Chinese Cinema

(4) STAFF

Prerequisites: Film Studies 46 or consent of instructor or upper-division standing.

An introduction to major Chinese directors from the People's Republic of China, the Republic of China (Taiwan), and Hong Kong. Film composition, choices of subject and character, ideas of the cinematic, and relationship of cinema to Chinese culture and society.

123. German Cinema

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor.

The rise and fall of German cinema from 1914 to 1934, then its revival in the 1960s as the New German Cinema. Expressionism in silent film. Analysis of films by Lang, Murnau, Pabst, Weine, Wenders, Herzog, Fassbinder, etc.

125A-B. Documentary Film

(4-4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or six terms of college work.

A: The history of documentary film, as an aesthetic form and a social force, from the early silent era to World War II.

B: The history of documentary film, as an aesthetic form and a social force, from World War II to the present.

128. Silent Film Comedy

(4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

The study of silent film comedy encompassing the work of Mack Sennett, Charlie Chaplin, Buster Keaton, Harold Lloyd, and some of their contemporaries, within the context of American culture in the teens and twenties.

130. Sound Film Comedy

(4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

An analysis of the comic tradition in American cinema since the coming of sound emphasizing comic-dramatic patterns, theatrical sources, historical/social contexts. Directors to be covered include: Lubitsch, Hawks, Capra and Cukor.

132. French New Wave Cinema

(4) STAFF

Prerequisite: Film Studies 46.

A study of the French New Wave as both an economic and aesthetic phenomenon, examining characteristic films and critical texts of the late fifties and sixties by Jean-Luc Godard, Jacques Rivette, Alain Resnais, Francois Truffaut, and Claude Chabrol, among others.

133. Soviet Cinema, 1917 to 1945

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

A study of the development of cinema in Russia from the revolution to the end of World War II, with some emphasis on the relation of theory and practice and the influence of politics on art.

136. British Cinema

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Course will consider a selection of films representing the evolution of British cinema during the past half century.

137. Eastern European Cinema

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Focuses on cinemas of Hungary, Czechoslovakia, and Poland from their relatively modest pre-war beginnings through the post-war period of economic and political "socialization" up to the peak production of the sixties, in context of cultural and historical continuities.

140. The Western

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Establishes the forms and rituals of the western genre, and reflects on changes they have undergone. Attention will also be given to the trend towards realism, and the new moral and political revisions of the western's view of society.

142. The War Film

(4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

A study of films depicting and/or discussing warfare from World War I to Vietnam. Special emphasis on the relationship between the periods in which the films were made and the manner in which the wars were depicted.

143. Science Fiction Film

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Examines the evolution and shifting limits of the genre from the dawn of narrative cinema through the heyday of the fifties' science fiction thriller through the recent high-tech revival in an age of media transformation.

144. The Horror Film

(4) STAFF

Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

Study of the horror film genre and the reasons for its popularity, including new interest in psychoanalysis and reaction to modern mass society and consumerism. Also deals with issues of sacrifice, simulated catastrophic loss, and other themes of catharsis.

145. Melodrama

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

A study of the themes, structures, style, and critical reception of film melodrama, from morality tales of the silent era through family dramas of the 1950s and 60s. Investigates issues including the representation of motherhood, family anxiety, pressures toward conformity.

146. Advanced Film Analysis

(4) BRANIGAN

Prerequisite: Film Studies 46, upper-division standing, and consent of instructor.

A study of the basic formal dimensions of cinema: narration, causality, space, time, and sound.

147. The Thriller

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing, and consent of instructor.

Study of the genre from the gangster to the science-fiction thriller, involving primarily American films but with a look at the parallel international cinema. Course centers on detection and investigation, exploring suspense and other intense forms of spectator involvement.

150AA-ZZ. Topics in Film Genre

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing. Course may be repeated an unlimited number of times, provided the letter designations are different. However, only 12 units may count toward the major.

A study in depth of one or two film genres, including historical, theoretical, and social issues. Topics will vary.

151A. American Film: The 1930s

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

A survey of major American film directors and genres, in the 1930s, within the context of social concerns.

151B. American Film: The 1940s

(4) STAFF

Prerequisite: Film studies 46 or consent of instructor or upper-division standing.

A survey of major American film directors and genres, in the 1940s, within the context of social concerns.

151C. American Film: The 1950s

(4) STAFF

Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

A survey of major American film directors and genres, in the 1950s, within the context of social concerns.

151D. American Film: The 1960s
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

A survey of major American film directors and genres, in the 1960s, within the context of social concerns.

151E. American Film: The 1970s
(4) STAFF
Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

A survey of major American film directors and genres, in the 1970s, within the context of social concerns.

154. European Directors in Hollywood
(4) STAFF
Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

How the styles and themes of German emigre directors arriving in Hollywood during the twenties and thirties influenced and in turn were affected by American culture and the Hollywood studio system. Course focuses primarily on Lubitsch, Lang, and Wilder.

155AA-ZZ. Directors
(4) STAFF
Prerequisite: Film Studies 46. Course may be repeated an unlimited number of times, provided the letter designations are different; 8 units may be counted toward the film studies major.

A study in depth of the films of one or two filmmakers of international stature and significance.

161. Third World Cinema
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing. Same course as Black Studies 161.

This course studies representative films from Africa, Asia, and Latin America from the 1950s to the present. Explores the socio-cultural and aesthetic dimensions of these cinemas (which have emerged as the "other" of Hollywood and European cinema).

163. Women and Film: Feminist Perspectives
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Survey of the major debates on questions of women and representation in contemporary film criticism. Topics to be covered include the representation of sexuality and the family in the Hollywood cinema; feminism and the avant-garde.

165. Film and Social Reality
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

An inquiry into the interrelationships between film and history and/or film and ideology. The course examines how cinema reflects and/or influences the attitudes of a society.

169. Film Noir
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing. Not open for credit to students who have received credit for Film Studies 180.

Study of the conventional themes, structures, and visual motifs of the detective film. American films of the forties and fifties and contemporary American and European works will be considered.

170. The Musical Film
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or six terms of college work.

Examination of musical films from the advent of talkies to the present, with special attention given to formal issues: the relationship of musical spectacle to narrative, conditions of musical film spectatorship, musical utopias as constructed in film space and time.

175. Experimental Film
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or six terms of college work.

A survey of the experimental film tracing the major stylistic and thematic trends in the diverse movements that have considered themselves outside of the commercial narrative cinema. Bunuel, Dulac, Cocteau, Leger, Deren, Brakhage, Baillie, Frampton, Snow, Rainer, and others.

184. Film Music
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

Examines the musical score as an integral structural element of cinema. Topics include the model of "silent" cinema; the theoretical basis of sound and image synchronicity; the narrative functions of film music; and contemporary development of the film score.

187AA-ZZ. Special Topics in Film Analysis
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or six terms of college work. Course may be repeated for a maximum of 12 units; 8 units may be counted toward the film studies major.

This seminar for advanced students will examine in depth a particular problem or issue in the analysis of film and its consequences for a history, theory, or aesthetics of film.

188A. Basic Screenwriting
(4) STAFF
Prerequisites: consent of instructor, writing sample, upper-division standing.

A study of the creativity and the technique of screenwriting for the conventional narrative film and for TV. Students will be required to complete writing exercises, a treatment, and master scenes of a full-length project.

188B. Advanced Screenwriting
(4) STAFF
Prerequisite: Film Studies 188A. May be repeated for credit to a maximum of 8 units.

A course intended for students who have successfully completed Film Studies 188A and have a full-length screenplay in process which they want to complete.

189AA-ZZ. Topics in Contemporary Film Theory
(4) STAFF
Prerequisites: Film Studies 146 and 192, or consent of instructor, or upper-division standing. May be repeated for credit to a maximum of 12 units with 8 units allowed toward the major.

Topics vary each year and may include such problems as the relation of film to structuralism, semiotics, metaphor/metonymy, point of view, and the writings of Burch, Barthes, Metz, Heath, Bordwell, Willemen, Wollen.

190AA-ZZ. Studies in Film and the Other Arts
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or upper-division standing.

An analysis of film in relation to literary and plastic arts such as photography, architecture, and the novel. Topics will vary.

191. Film Criticism
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor.

An intensive study in the reading and writing of film criticism. A close examination of critical texts from different periods is accompanied by the screening of relevant films; further emphasis is given to analyzing critical papers written for the seminar.

192. Film Theory
(4) STAFF
Prerequisite: Film Studies 46 and upper-division standing, or consent of instructor.

An introduction to film theory and critical methodology through a close analysis of selected writings of such theorists as Munsterberg, Arnhein, Eisenstein, Bazin, Mitry, Metz, Burch, Baudry, Heath and Bordwell.

193. Film Narrative
(4) STAFF
Prerequisite: Film Studies 46, consent of instructor, or upper-division standing.

An investigation of major aesthetic and theoretical problems concerning film narrative. Covered will be the classic film, the breakdown of classical conventions, and the modernistic film.

194. Advanced Readings
(4) STAFF
Prerequisite: Film Studies 46 or consent of instructor or six terms of college work. May be repeated for credit to a maximum of 12 units.

This seminar will cover advanced readings in specific film genres, directors, or historical periods.

196. Senior Honors Seminar
(4) STAFF
Prerequisite: admission to senior honors program (see requirements under Film Studies Honors Program). A one-quarter directed study, to be conducted as outlined in the description of the senior honors program. Honors candidates will write a senior thesis on a topic approved by the film studies faculty.

A one-quarter directed study, to be conducted as outlined in the description of the Senior Honors Program. Honors candidates will write a senior thesis on a topic approved by film studies faculty.

199. Independent Studies
(1-4) STAFF
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in film studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Departmental and instructor approval required.

Selected research under the direction of a faculty member.

199RA. Independent Research Assistance in Film Studies
(1-S) STAFF
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in film studies; (4) have consent of instructor and department. Students are limited to 5 units per quarter and 30 total units in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

French and Italian

Department of French and Italian,
Division of Humanities and Fine Arts,
Phelps Hall 5206;
Telephone (805) 893-3111
Department Chair: Cynthia Brown

Faculty

William J. Ashby, Ph.D., University of Michigan, Professor *(Romance philology, linguistics)*

Robert Beachboard, Docteur de l'Université de Paris, Professor Emeritus

Alfredo A. Bonadeo, Ph.D., UC Berkeley, Professor Emeritus

Cynthia Brown, Ph.D., UC Berkeley, Associate Professor *(late medieval-early Renaissance literature)*

Jean-Jacques Courtine, Doctorat d'Etat de Linguistique, Université de Paris X, Professor *(linguistics and cultural studies)*

Anne G. Cushing, Ph.D., University of Colorado, Professor Emerita

Geneviève Delattre, Ph.D., Columbia University, Professor Emerita

Jody Enders,Ph.D., University of Pennsylvania, Associate Professor *(medieval literature, feminism)*

Naomi Greene, Ph.D., New York University, Professor *(20th-century literature, film, Artaud)*

Harry Lawton, M.A., B. Litt., Oxford University, Senior Lecturer with Security of Employment *(modern Italian poetry, Italian cinema)*

Sydney Lévy, Ph.D., UC Irvine, Professor *(contemporary French poetry, literary theory)*

Elizabeth MacArthur, Ph.D., Princeton University, Associate Professor *(18th-century literature)*

André Malécot, Ph.D., University of Pennsylvania, Professor Emeritus

Didier Maleuvre, Ph.D., Yale University, Assistant Professor *(19th-century literature)*

Edmond E. Masson, Ph.D., UC Berkeley, Professor Emeritus

Jack Murray, Ph.D., Yale University, Professor Emeritus

Catherine Nesci, Ph.D., University of Paris, Agrégation, École Normale Supérieure, Associate Professor *(19th-century literature, Balzac, theory)*

Patrizio Rossi, Ph.D., UC Berkeley, Professor Emeritus

Jacqueline Simons, Diplôme d'Etudes Supérieures, Senior Lecturer with Security of Employment *(supervisor of teaching assistants)*

Cynthia Skenazi, Ph.D., University of Michigan, Assistant Professor *(16th-century literature)*

Ernest Sturm, LL.B., New York University School of Law; Ph.D., Columbia University, Professor *(literature and philosophy)*

Mark J. Temmer, Ph.D., Yale University, Professor Emeritus

Ronald W. Tobin, Ph.D., Princeton University, Professor *(17th-century French theatre, Molière)*

Philip D. Walker, Ph.D., Yale University, Professor Emeritus

The Department of French and Italian offers majors leading to the Bachelor of Arts degree in French or in Italian cultural studies, and graduate programs leading to the M.A. and Ph.D. degrees in French literature, or an M.A. combining French literature and linguistics. It also collaborates with other departments in the Comparative Literature Program, the Film Studies Program, the Medieval Studies Program, and the Renaissance Studies Program. The majors in French and Italian are liberal arts majors designed, above all, for those who wish to receive solid training in a humanistic discipline. In addition, the Department of French and Italian makes available to all students courses in French and Italian literature, including courses in English translation.

The French program has an undergraduate adviser and a graduate adviser; the Italian program has an undergraduate adviser. Several publications are available from the department describing more completely the French and Italian majors.

After completing specific prerequisites, students with a bachelor's degree in French or Italian are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Language program. The department offers a variety of foreign language courses, including a "four skill" track and conversation. Information about the language program, including grading regulations and placement, is available from the department.

Students who have studied French or Italian in high school and who wish to continue study of those languages at UCSB are required to take a placement examination.

Undergraduate Program

Bachelor of Arts—French (Literature Emphasis)

Preparation for the major. Required: French 1, 2, 3, 4, 5, 6, 26, 30. History 4A-B-C and Philosophy 20A-B-C (when offered) or 21A-B-C are strongly recommended for all French majors. French majors must maintain at least an average grade of C in French courses taken prior to the junior year; transfer students may be required to take an examination.

Upper-division major. Forty-four upper-division units in French, including (1) French 109A-B-C; (2) 4 units of upper-division literature courses taught in French from each of the following periods: medieval or Renaissance, seventeenth or eighteenth century, nineteenth or twentieth century; (3) 8 units of upper-division French literature electives taught in French; and (4) 12 units of additional upper-division French electives taught in French (a maximum of 8 upper-division units may come from courses taught either by French or Italian instructors in English or from courses in Italian). At least one, but sometimes only one, course from each period will be offered every quarter. Students are encouraged to plan their schedules accordingly.

Bachelor of Arts—French (Linguistics Emphasis)

Preparation for the major. Required: French 1, 2, 3, 4, 5, 6, 26, 30; Linguistics 20. French majors must maintain at least an average grade of C in French courses taken prior to the junior year; transfer students may be required to take an examination.

Upper-division major. Forty upper-division units are required, including (1) 8 units from French 109A-B-C; (2) 12 units from French 102, 103, 105, 111, 112; (3) 4 upper-division units in French literature taught in French other than French 109A-B-C; (4) 4 additional upper-division units in linguistics chosen from French 102, 103, 105 (if not used above), 107 or Linguistics 106, 108, 109, 111, 112, 113, 115, 124, 130, 131, 160, 175; (5) 8 upper-division units of French electives (maximum of 4 units may come from courses taught in English); (6) one additional upper-division course chosen from section 4 or 5.

Education Abroad Program requirements. Majors who go to France under the Education Abroad Program must complete at least 18 units of upper-division courses in the department on the UCSB campus. Full details regarding EAP courses and regulations are available from the EAP office or the department chair.

Bachelor of Arts—Italian Cultural Studies

Preparation for the major. Italian 1, 2, 3, 4, 5, 6 (or Italian 14); Italian 101. History 4A-B-C and Philosophy 20A-B-C (when offered) or 21A-B-C are strongly recommended.

Upper-division major. Forty-four upper-division units are required, including Italian 101 and 102; 4 units of literature taught in Italian from each of the following periods: medieval, Renaissance, and modern; 8 units of additional literature electives from Italian; 12 units of electives from the following: Art History 153E, 155C-D, 156A-D-E-F-G-H, 157A-B, 164B, Film Studies 101C, 155, Geography 159, History 115, 117A-B, 121A-B-C, 123A-B-C, 128A-B, 129A-B-D, Music 112A-B-C, 117, 177, 179, 180, 181, Political Science 140 (no more than one course may be from each discipline).

Senior Honors Program

French or Italian Cultural Studies majors of senior standing may be invited to participate in the departmental honors program. Details are available from the department office.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Summer Institute of French Studies

A three-summer intensive program leading to the M.A. degree in French is designed primarily for secondary school teachers of French. Residence at the institute and observance of a "no English" rule are required.

Prerequisites. In addition to fulfilling the general requirements for admission to graduate status, the student must have an undergraduate major in French or its equivalent and must demonstrate proficiency in speaking and writing French. All applicants are required to take the general Graduate Record Exam (GRE).

Coursework. The M.A. requires 40 units (thesis optional) or ten courses across five areas including language, linguistics, culture, literature, and interdisciplinary studies.

Since this is not a research-oriented degree, the Summer Institute M.A. will not completely fulfill requirements for entry into the Ph.D. program at UCSB.

Recommended preliminary readings. Students can do the reading for many courses during the winter; lists appear in the winter bulletin, published in the fall and available upon request.

For additional information and application forms, write to the Summer Sessions Office, University of California, Santa Barbara, CA 93106.

Master of Arts—French

Admission

Applicants must hold a bachelor's degree or its equivalent from an accredited institution. The overall grade-point average for upper-division work must be strong, and in French it must be excellent. In addition to fulfilling the general requirements for admission to graduate status, the student must have an undergraduate major in French, or its equivalent. Students who are deficient in this respect will take the necessary undergraduate courses before beginning work in the master's program.

Degree Requirements

The M.A. degree is offered under Plan 1 (thesis) and Plan 2 (comprehensive examination). In Plan 1, the candidate is expected to take 44 units of work, 36 units of coursework and 8 units of thesis work. All 36 units must be in graduate courses. In Plan 2, the candidate is expected to take 44 units of coursework, all of which must be in graduate courses. All full-time graduate students must enroll in at least two regularly scheduled graduate seminars in French each quarter.

All candidates must satisfy the following requirements: a knowledge of French philology equivalent to French 204A-B; a reading knowledge of one additional relevant foreign language; and coursework in bibliography and literary theory.

All candidates must (1) pass a written comprehensive examination and an oral examination; (2) demonstrate a proficiency in speaking and writing French; and (3) serve as teaching assistants for two quarters. Full details of the M.A. program, including options for the comprehensive examinations and descriptions of examinations, are available from the department.

Doctor of Philosophy—French

Admission

An M.A. degree in French from UCSB, or a degree based on equivalent training, is prerequisite for admission.

Students currently enrolled at UCSB whose M.A. performance indicates the ability to conduct research at the Ph.D. level may petition to continue for the Ph.D.

Degree Requirements

Ph.D. students in the Department of French take those courses recommended by their advisers as useful in preparing for the comprehensive examination. All full-time graduate students must enroll in at least two regularly scheduled graduate seminars in French each quarter. They must also satisfy the requirement of a reading knowledge of two relevant foreign languages, must have had two courses in literary theory; and must serve as teaching assistants for three quarters.

All students must pass a series of written comprehensive examinations; the examinations may be written in French or English. Students who successfully pass the written comprehensives must pass a qualifying oral examination in order to advance to candidacy. Following formal advancement to candidacy, the student must present a dissertation which gives evidence of ability to conduct independent research of high quality.

Full details of the Ph.D. program, including options for the comprehensive examinations and examination schedules, are available from the department.

French Courses

LOWER DIVISION

Please note: Students who have studied French at other institutions and who wish to continue the study of that language at UCSB are required to take the placement examination given by the department.

1. Elementary French
(4) STAFF

The beginning course in French. Course taught in French. Oral skills stressed. Grammar reinforced by dialogue memorization and pattern drills. Correct pronunciation and the ability to distinguish sounds emphasized. Question-answer technique helps students transfer patterns to free conversation. Laboratory assignment given daily. Not taught in spring quarter. (F,W)

2. Elementary French
(4) STAFF

Prerequisite: French 1 or equivalent.

A continuation of French 1. Course taught in French. Readings, essays, French geography included, the latter by means of slides. Laboratory assignment given daily. (F,W,S)

3. Elementary French
(4) STAFF

Prerequisite: French 2 or equivalent.

A continuation of French 2. Course taught in French. Emphasis on readings and short essays rather than on dialogues. Slide programs given to encourage class discussion. Laboratory assignment given daily. (F,W,S)

4. Intermediate French
(4) STAFF

Prerequisite: French 3 or equivalent.

Taught in French, the course reviews basic structures with new elements added. Vocabulary development stressed by means of original sentences and weekly essays. Reading selections to help develop oral-written correspondences included in the course. Laboratory assignment given daily. (F,W,S)

5. Intermediate French
(4) STAFF

Prerequisite: French 4 or equivalent.

A continuation of French 4. Course taught in French. Basic structures reviewed. Supplementary readings such as *L'Etranger*, *Huis Clos*, etc., are emphasized. Laboratory assignment given daily. (F,W,S)

6. Intermediate French
(4) STAFF

Prerequisite: French 5 or equivalent.

A basic text, used for the acquisition of vocabulary and the practice of essay writing, also stresses aspects of civilization and is complemented by readings of poems, plays, or novels. (F,W,S)

8A. French Conversation
(2) STAFF

Prerequisite: French 3 or equivalent.

Brief exposés are based on centers of vocabulary which have been studied. Debates and discussion on topics given by the instructor are held between the students. (F,W,S)

8B. French Conversation
(2) STAFF

Prerequisite: French 4 or equivalent.

Brief exposés are based on centers of vocabulary which have been studied. Debates and discussion topics given by the instructor are held between students. (F,W,S)

8C. French Conversation
(2) STAFF

Prerequisite: French 5 or equivalent.

This course, because of the abilities of the students, varies more in content than does French 8A or 8B. Discussion of relevant topics is carried on, while fluency and vocabulary enrichment are definitely emphasized. (F,W,S)

11A-B. French for Graduate Students
(4-4) STAFF

Prerequisite: French 11A for French 11B.

A service course for graduate students from other departments who need to satisfy language requirements. Divided into two levels: 11A (Elementary) for those who have no, or hardly any knowledge of French; 11B (Intermediate) open to students who have an appropriate level of knowledge of the language and to continuing students from 11A. Class meets twice weekly, offers grammatical preparation and practice for translation, but no individual projects.

19A-B-C. Intensive Practice in Spoken French
(4-4-4) STAFF

Prerequisite: French 6 or 8C or equivalent.

An intensive encounter with spoken French designed to develop communication skills. Systematic assimilation of oral structures through the study of film, soundtracks, and tapes. Exercises in oral expression. Active expansion of vocabulary and means of expression.

26. French Composition
(4) STAFF

Prerequisites: French 1 through 6; French 26 is a prerequisite for upper-division linguistics.

Primarily designed to help students develop a writing skill in the French language. French grammar is reviewed, but the coverage of this subject is limited to concrete situations arising from students' own compositions. Especially difficult grammatical topics are discussed upon students' request. (F,W,S)

30. Advanced Composition and Literary Analysis
(4) STAFF

Prerequisite: French 6 (grade B⁺ or better) or 26.

Training in analysis of literary texts by French critical techniques and in writing compositions. (F,W,S)

68X. Adultery in French Literature
(4) MACARTHUR

Prerequisites: English 2 and 3.

Representations of adultery from the Middle Ages to the present, including such works as *Tristan and Iseut*, *The Princess of Clèves*, and *Madame Bovary*. Changing conceptions of love, the social function of marriage, psychological and political signifigance of adultery.

UPPER DIVISION

Please note: French 26 and 30 (or consent of the department) are prerequisites to all upper-division literature courses taught in French. French 26 is the prerequisite for upper-division linguistics courses.

French majors should note that no more than 8 units of French courses taught in English may be counted toward the major. Courses whose numbers are followed by X, Y, Z are taught in English.

102. Background of Modern French
(4) ASHBY

Prerequisite: French 26 or 30.

The origins of the French language and an overview of its linguistic development with emphasis on the historical and cultural background. Lectures and readings in French.

103. Phonetics and Phonology
(4) ASHBY

Prerequisites: French 6, with a grade of B+ or better, or 26.

Basic concepts of articulatory phonetics and

French phonology. A required one-hour session per week will be scheduled in the Language Laboratory. At that time the student's performance will be monitored by the instructor or TA.

104A-B. Advanced Writing and Translation
(4-4) STAFF

Prerequisites: French 26 and 30 (or consent of department).

The course will first focus on a study of literary and nonliterary discourses, with a sustained emphasis on translation. The course will then focus on creative writing in fictional and nonfictional prose. Lectures and readings in French.

105. French Morphology and Syntax
(4) ASHBY

Prerequisites: French 6, with a grade B+ or better, or 26; and Linguistics 20 or French 102.

An analysis of the morphology and syntax of modern French.

106A-B. History of French Culture
(4-4) COURTINE, ENDERS

Prerequisites: French 26 and 30 (or consent of department).

Lectures and readings in French.

A: From the Romanization of Gaul to the intellectual, artistic, and musical creations of four major periods: Carolingian, Romanesque, Gothic, and Renaissance.

B: Important social changes and main artistic creations during the seventeenth, eighteenth, and nineteenth centuries.

106C. History of French Culture
(4) NESCI

Prerequisites: French 26 and 30, or consent of instructor.

French culture from 1870 to 1968. Lectures and readings in French.

106D. La France Depuis 1945: Mutations Sociales et Culturelles
(4) COURTINE

Prerequisites: French 26 and 30 or consent of department.

The transformation of French society since World War II, with focus on attitudes and daily life. The role of women, love and marriage, birth and abortion, parents and children, leisure activities, culture, consumerism.

106X. Women in France: Images and Realities (in English)
(4) BROWN, GREENE

Prerequisites: English 2 and 3 or consent of instructor.

The comparison and contrast of the image of women in the arts and literature with their traditional position in French society from the Middle Ages to the present. Representative figures include Eleanor of Aquitaine, George Sand, and Simone de Beauvoir. Lectures and readings in English.

107. Problems in French Linguistics
(4) ASHBY

Prerequisites: Linguistics 20, French 26.

A few selected problems in the linguistic analysis of French will be studied in depth. The specialized focus will change from year to year. Lectures and readings in French.

108. Rhetoric of Crime
(4) ENDERS

Prerequisites: French 26 and 30 or consent of instructor.

Focusing on the interrelations between law and literature, we study French texts of all periods which explore crime at the levels of theme, structure, rhetoric and ideology. (*Chanson de Roland*, Montaigne, Racine, Rousseau, Sade, Zola, Duras, Japrisot).

109A-B-C. Introduction to French Literature
(4) STAFF

Prerequisites: French 30 or instructor's consent.

An introduction to French literature, spanning French literature from its medieval origins to the contemporary period. Authors and movements whose contribution to world culture has been most considerable will be stressed. Lectures and readings in French.

110. Senior Honors Seminar
(4) STAFF

Prerequisites: Open to French majors with French grade-point average of 3.25 or above.

Course material will vary from year to year, but will involve rigorous investigation of theoretical issues through the reading of both literary and critical texts.

111. Saussure et les Origines de la Linguistique Française
(4) COURTINE

Prerequisite: French 26 and 30 or consent of instructor.

Focus on Saussure's landmark work, *Cours de linguistique générale*, and the concepts it defines: *système, langue et parole, synchronie et diachronie, valeur et signification, sémiologie.* Subsequent theories, including those of enunciation, will be discussed.

112. Linguistique Structurale et Analyse Structurale des Textes
(4) COURTINE

Prerequisite: French 111 or consent of instructor.

The founding principles of structural linguistics, and how linguistic methods can be applied to the analysis of literary texts (Barthes, Greimas), folktales (Propp), myths or genealogies (Lévi-Strauss), semiology (Barthes, Prieto) and psychoanalysis (Lacan).

113. Discourse and the Body: Foucault in France and the U.S.
(4) Courtine

Prerequisite: French 26 and 30 or consent of instructor.

Focusing on the critical works of Michel Foucault in their historical context, the course will explore the sometimes contradictory readings of French post-structuralism in France and America.

113X. Discourse and the Body: Foucault in France and the U.S.
(4) COURTINE

Prerequisites: English 2 and 3 or consent of instructor.

Focusing on the critical works of Michel Foucault in their historical context, the course will explore the sometimes contradictory readings of French post-structuralism in France and America. Taught in English.

120X. Autobiography
(4) MACARTHUR

Prerequisites: English 2 and 3 or consent of instructor.

A study of autobiographies written in French from the eighteenth century to the present, including Rousseau, Chateaubriand, Sand, Leduc, and Sartre. Readings will vary from quarter to quarter. Lectures and readings in English.

121. La Vie Privée en France, XVI-XVIII Siècles
(4) COURTINE

Prerequisites: French 26 and 30 or consent of instructor.

How did French people live in earlier times? What were the relations between men and women, parents and children? What were attitudes towards birth, love, marriage or death? We will seek answers in historical and contemporary texts.

121X. Private Life in France in the 16th-18th Centuries
(4) COURTINE

Prerequisites: English 2 and 3 or consent of instructor.

How did French people live in earlier times? What were the relations between men and women, parents and children? What were attitudes towards birth, love, marriage or death? We will seek answers in historical and contemporary texts. Taught in English.

122A-K. La Mémoire des Français
(4-4-4-4-4) COURTINE

Prerequisites: French 26 and 30 or consent of instructor.

Focus on key historical incidents of this century which have influenced the current political landscape in France, and marked the nation's collective memory. A. Resistance and Collaboration in World War II. B. The Algerian War and the End of French Colonialism. C. The May 1968 Student Revolt. D. The Decline of the Working Class and of French Communism. E. Nationalism and Anti-Semitism from the Dreyfus Affair to Le Pen.

122AX-KX. Collective Memory in Contemporary France
(4-4-4-4-4) COURTINE

Prerequisites: English 2 and 3 or consent of instructor.

Focus on key historical incidents of this century which have influenced the current political landscape in France, and marked the nation's collective memory. Taught in English. AX. Resistance and Collaboration in World War II. B. The Algerian War and the End of French Colonialism. C. The May 1968 Student Revolt. D. The Decline of the Working Class and of French Communism. E. Nationalism and Anti-Semitism from the Dreyfus Affair to Le Pen.

130. Prosecution and Persecution in the Middle Ages
(4) ENDERS

Prerequisites: Upper-division standing or consent of instructor.

Legal and cultural perspectives on transgression in the Middle Ages. An examination of representative historical and literary treatments of such subjects as witchcraft, heresy, rape, treason, homosexuality, and "minorities." Lectures and readings in French.

130X. Prosecution and Persecution in the Middle Ages
(4) ENDERS

Prerequisites: English 2 and 3. Not open for credit to student who have completed French 130.

Legal and cultural perspectives on transgression in France in the Middle Ages. An examination of representative historical and literary treatments of such subjects as witchcraft, heresy, rape, treason, homosexuality, and "minorities." Lectures and readings in English.

131. Performing Gender in the Middle Ages
(4) ENDERS

Prerequisites: upper-divsion standing or consent of instructor.

Cultural and literary portrayals of the connection between gender and social roles in the Middle Ages. Readings focus on early conceptualizations of physiognomy, medicine, marriage, power, sainthood, transvestism, the idealization of women, and misogyny. Lectures and readings in French.

131X. Performing Gender in the Middle Ages
(4) ENDERS

Prerequisites: English 2 and 3. Not open for credit to students who have completed French 131.

Cultural and literary portrayals of the connection between gender and social roles in France in the Middle Ages. Readings focus on early conceptualizations of physiognomy, medicine, marriage, power, sainthood, transvestism, the idealization of women, and misogyny. Taught in English.

132. Women on Trial
(4) ENDERS

Prerequisites: upper-divsion standing or consent of instructor.

A study of the cultural construction of femininity through an examination of legal proceedings (actual and literary) initiated by or against medieval women for such "crimes" as witchcraft, adultery, pride, theft, vainglory, and seduction. Lectures and readings in French.

132X. Women on Trial
(4) ENDERS

Prerequisites: English 2 and 3. Not open for credit to students who have completed French 132.

A study of the cultural construction of femininity through an examination of legal proceedings (actual and literary) in France initiated by or against medieval women for such "crimes" as witchcraft, adultery, pride, theft, vainglory, and seduction. Taught in English.

133. Words and Music in the Middle Ages
(4) ENDERS

Prerequisites: Upper-divsion standing or consent of instructor.

A study of major medieval performance genres in their sociocultural context, including the *troubadours* and *trouvères*, the Mass and liturgical drama, extant instrumental music, and romance works with lyric insertions (e.g. *Aucassin et Nicolette*, Machaut). Lectures and readings in French.

133X. Words and Music in the Middle Ages

(4) ENDERS

Prerequisites: English 2 and 3. Not open for credit to students who have completed French 133.

A study of the major medieval performance genres in their sociocultural context, including the *troubadours* and *trouvères*, The Mass and liturgical drama, extant instrumental music, and romance works with lyric insertions (e.g. *Aucassin et Nicolette*, Machaut). Lectures and readings in English.

134A. Law and Literature in the Middle Ages

(4) ENDERS

Prerequisites: French 26 and 30, or *consent of instructor.*

Not only does medieval literature represent and stage constant juridical proceedings (trials, ordeals, executions): law itself is often perceived as entertainment. Analyzing representative epic, theatrical, and legal texts, we will investigate the veritable spectacle of jurisprudence (including its contemporary ramifications).

134B. Trials of Desire in the Middle Ages

(4) ENDERS

Prerequisites: French 26 and 30 or consent of instructor.

From knightly jousting to romantic monologues to lyric debates about fidelity, numerous medieval characters fight about love. Focusing on Chrétien de Troyes and the *troubadours*, we explore the literary and cultural ramifications of the representation of love as violent.

136A. Medieval Narrative

(4) BROWN

Prerequisites: French 26 and 30 (or consent of department).

The rise of medieval narrative literature and its development. Emphasis will be placed on the *chanson de geste* and/or the romance. Lectures and readings in French.

136B. Lyric Poetry of the Middle Ages

(4) BROWN

Prerequisites: French 26 and 30 (or consent of department).

Four centuries of French poetry, from the earliest songs of the troubadours and trouvères to the verse of Villon. Thematic and stylistic analyses of selected texts from courtly and popular traditions. Lectures and readings in French.

136C. Medieval Drama

(4) BROWN

Prerequisites: French 26 and 30 (or consent of department).

A study of the origins and development of French theatre to 1500 with emphasis on the comic genres. Lectures and readings in French.

136D. Trends in Medieval Literature and Culture

(4) BROWN

Prerequisites: French 26 and 30 (or consent of department).

The development of a cultural or literary idea, theme, or structure (e.g., allegory, autobiography, madness) from the twelfth century through the fifteenth century. Lectures and readings in French.

136E. Women in the Middle Ages

(4) BROWN

Prerequisites: French 26 and 30 (or consent of department).

A study of the socio-political role of women in France from the twelfth to the fifteenth centuries through an examination of their image in literary texts written by both sexes. Lectures and readings in French.

136X. Women in the Middle Ages

(4) BROWN

Prerequisites: English 2 and 3 or consent of instructor.

A study of the socio-political role of women in France from the twelfth to the fifteenth centuries through an examination of their image in literary texts written by both sexes. Lectures and readings in English.

137X. Medieval Literature in Translation

(4) BROWN

Prerequisites: English 2 and 3 or consent of instructor.

A study of one or more major medieval works in translation such as The Song of Roland, the romances of Chrétien de Troyes, the Lais of Marie de France, or The Romance of the Rose. Lectures and readings in English.

140A. Rabelais

(4) SKENAZI

Prerequisites: French 26 and 30 (or consent of department).

A detailed study of Gargantua and Pantagruel in the contexts of popular culture; the biblical, classical, and scholastic heritage; the intellectual avant-garde of Humanism. Lectures and readings in French.

140B. Renaissance Poetry

(4) SKENAZI

Prerequisites: French 26 and 30 (or consent of department).

A study of the great masterpieces of French Renaissance poetry with special attention given to poets of the "École de Lyon" and the "Pléiade." Works by Marot, Scève, Du Bellay, and Ronsard. Lectures and readings in French.

140C. The Renaissance Literature of Ideas

(4) SKENAZI

Prerequisites: French 26 and 30 (or consent of department).

The expression, transformation, and transcendence of ideas through new literary forms of the late Renaissance. Philosophical, political, and religious works by Montaigne, Ronsard, and d'Aubigné. Lectures and readings in French.

141. Ambiguity and Opposition in Selected Authors of the Early Renaissance

(4) SKENAZI

Prerequisites: French 26 and 30.

The expression of resistance and reaction to the social order. May include works by Lemaire de Belges, Marot, Rabelais, Scève. Lectures and readings in French.

141X. Rabelais in Translation

(4) SKENAZI

Prerequisites: English 2 and 3 or consent of instructor.

A study of the works of Rabelais in an attempt to discover in them the expression of a popular culture parallel to official literary culture but most often excluded from officially recognized literature. Lectures and readings in English.

142. French Theatre

(4) SKENAZI

Prerequisites: French 26 and 30.

A study of the meaning and the function of French theatre throughout the centuries, in connection with the cultural context of the day. Plays by Molière, Beaumarchais, Hugo, Musset, Ionesco, Beckett. Lectures and readings in French.

142X. French Theatre in Translation

(4) SKENAZI

Prerequisites: English 2 and 3 or consent of instructor.

A study of the meaning and the function of French theatre through the centuries, in connection with the cultural context of the day. Plays by Molière, Beaumarchais, Hugo, Musset, Ionesco, Beckett. Lectures and readings in English.

143. Belgian Literature in French

(4) SKENAZI

Prerequisites: French 26 and 30.

A study of selected texts of nineteenth and twentieth-century Belgian literature in relation to the visual arts of the period. Works by Maeterlinck, Verhaeren, Ghelderode. Lectures and readings in French.

144. The Rise of Nationalism in the Renaissance

(4) SKENAZI

Prerequisites: French 26 and 30 or consent of instructor.

Political discourse in the Renaissance. The expression of nationalism in selected texts and documents from the sixteenth century.

149. Poetry and Music of the French Renaissance

(4) STAFF

Prerequisites: French 26 and 30 (or consent of department). Open to Music majors with reading knowledge of French. May be taken for credit only once as either French 149 or Music 189.

Interdisciplinary study in the relationship between text and music in the Renaissance *chanson*. Works studied include poetry of Marot, Ronsard, Baïf; music of Josquin, Claudia, Lassus.

150A. The Early Seventeenth Century

(4) TOBIN

Prerequisites: French 26 and 30 (or consent of department).

Analysis of literary, philosophical, and cultural trends of the first half of the seventeenth century. Esthetics of mannerism (Théophile, Saint-Amant), classicism (Malherbe, Racan), Préciosité (Voiture, Montausier), French mannerist tragedy (Rotrou, Corneille). Birth of modern rationalism and importance of neostoicism in Descartes' works. Class reading and discussions supplemented by lectures on aspects of culture (religion, politics, society). Documentary films used. Lectures and readings in French.

150B. The Age of Louis XIV

(4) TOBIN

Prerequisites: French 26 and 30 (or consent of department).

The development of literary genres between 1660 and 1680. Pascal, Racine, Molière, La Fontaine, La Rochefoucauld, Mme de La Fayette studied as examples of that ideal which attempts a balance, through tension, of mannerism and classicism. Discussions of art and architecture will supplement literary analysis. Lectures and readings in French.

150X. Seventeenth-Century French Literature in Translation

(4) TOBIN

Prerequisites: English 2 and 3 or consent of instructor.

Analysis of selected seventeenth-century French texts by such authors as Molière, Racine, Descartes, Pascal, and La Fontaine. Lectures and readings in English.

153. Mythological Heroes and Heroines of the Seventeenth Century

(4) TOBIN

Prerequisites: French 26 and 30 (or consent of department).

Study of the concept of the hero in Descartes; analysis of political and mythological heroes and heroines in dramatic texts by major playwrights: Molière, Rotrou, Corneille, and Racine. Lectures and readings in French.

154. Comedy in the Seventeenth Century

(4) TOBIN

Prerequisites: French 26 and 30 (or consent of department).

Survey of the theories of the comic in the seventeenth century; discussion of the major comedies from 1637 to 1667, including farces, literary parodies, baroque comedy, social satire, and two enigmatic plays: Molière's Dom Juan and Le Misanthrope. Lectures and readings in French.

160A. Introduction to Eighteenth-Century French Thought

(4) STURM

Prerequisites: French 26 and 30 (or consent of department).

A reading of basic Enlightenment texts, stressing the fundamental works of Rousseau, Voltaire, Diderot, Laclos, and other major figures of the century. Lectures and readings in French.

160B. Eighteenth-Century French Novel

(4) MACARTHUR

Prerequisites: French 26 and 30 (or consent of department).

The novel's progression from banned genre to predominant literary form. Works by authors such as Prévost, Marivaux, Graffigny, Diderot, Laclos, and Sade. Lectures and readings in French.

160C. Eighteenth-Century French Theatre
(4) MACARTHUR

Prerequisites: French 26 and 30 (or consent of department).

A study of eighteenth-century plays, and of the controversies over acting and the role of the theatre in society. Plays and essays by Marivaux, Voltaire, Sedaine, Diderot, Rousseau and Beaumarchais. Lectures and readings in French.

160X. The Power of Negative Thinking: Sartre, Adorno, and Marcuse
(4) STURM

Prerequisites: English 2 and 3 or consent of instructor.

Critical perspectives on man and culture by three of the great myth-shattering thinkers of the century. Topics: the social function of art, the Freudian legacy, utopia revisited, work and play, etc. Lectures and readings in English.

161. Rousseau About Himself
(4) MACARTHUR

Prerequisites: French 26 and 30 (or consent of department).

A detailed reading of the Confessions and Les Rêveries du Promeneur Solitaire. Discussion and readings in French.

162. The Pleasures of the Mind: Candide, Jacques Le Fataliste, Le Neveu de Rameau, Lettres Persanes
(4) MACARTHUR

Prerequisites: French 26 and 30 (or consent of department).

A thematic and stylistic analysis of the wittiest writers of the Enlightenment (Voltaire, Diderot). Discussion and readings in French.

163. The Politics of Paradise
(4) STURM

Prerequisites: French 26 and 30 (or consent of department).

Rousseau's two Discourses, The Social Contract, and Emile, along with Voltaire's Candide, Le Mondain, and other works will be subjected to content analysis. The course will focus on rhetoric of utopia and its political infrastructure. Lectures and readings in French.

163X. Diderot, Fiction, and Role-Playing
(4) MACARTHUR

Prerequisites: English 2 and 3 or consent of instructor.

A study of Diderot's concern with human happiness (sexual freedom in *The Supplement to the Voyage of Bougainville*), with the theory and practice of the novel (*Jacques the Fatalist*), with acting on the stage (*Paradox on the Comedian*), with the alienated man (*Rameau's Nephew*). Lectures and readings in English.

164. Literature in the Age of Anxiety
(4) STURM

Prerequisites: French 26 and 30 (or consent of department).

Works dramatizing the plight of modern man faced with existential dilemmas and extreme situations. Sartre, Camus, Gide, Beckett, and others. Lectures and readings in French.

164X. Rousseau and the Confessional Urge
(4) MACARTHUR

Prerequisites: English 2 and 3 or consent of instructor.

An in-depth analysis of Rousseau's *Confessions*, one of the most influential documents of western civilization. Also to be studied: *The Fifth Rêverie of the Solitary Wanderer*. Lectures and readings in English.

166. Sartre: Recounting Lives
(4) STURM

Prerequisites: French 26 and 30.

The course will investigate the variety of angles from which Sartre recounts lives, whether it be his own or another's, real or fictional. Cognitive issues and dilemmas of biography, autobiography, and case studies will be investigated from a modern-critical perspective. Lectures and readings in French.

166X. Sartre: Recounting Lives
(4) STURM

Prerequisites: English 2 and 3 or consent of instructor.

The course will investigate the variety of angles from which Sartre recounts lives, whether it be his own or another's, real or fictional. Cognitive issues and dilemmas of biography, autobiography, and case studies will be investigated from a modern-critical perspective. Lectures and readings in English.

167X. Problems of Ending in Poetry and Fiction
(4) MACARTHUR

Prerequisites: English 2 and 3 or consent of instructor.

An investigation of the thematic and formal elements that make readers feel a work has ended, and of the connections between different types of endings and political, social, and religious structures and beliefs. Authors such as Ronsard, Diderot, Flaubert, Mallarmé. Lectures and readings in English.

168. French Women Writers
(4) MACARTHUR

Prerequisites: French 26 and 30 (or consent of department).

A survey of works by women writers from different periods. Readings will vary from quarter to quarter. Authors such as Marie de France, Marguerite de Navarre, Lafayette, Graffigny, Stael, Sand, Colette, Duras. Lectures and readings in French.

170A. The Nineteenth Century I
(4) MALEUVRE, NESCI

Prerequisites: French 26 and 30 (or consent of department).

Romanticism to realism. French poetry and prose between 1800 and 1850. Readings of such authors as Chateaubriand, Lamartine, Vigny, Hugo, Musset, Stendhal, Balzac. Chief qualities of the works selected, major themes, images, techniques, kinds of creative activity involved, emergent visions of reality. Lectures and readings in French.

170B. The Nineteenth Century II
(4) MALEUVRE, NESCI

Prerequisites: French 26 and 30 (or consent of department).

Realism, the Parnasse, the beginnings of modern poetry. French verse and prose of the middle of the nineteenth century. Readings of such authors as Baudelaire, Gautier, Mérimée, Leconte de Lisle, Nerval, Michelet, Flaubert. Lectures and readings in French.

170C. The Nineteenth Century III
(4) MALEUVRE, NESCI

Prerequisites: French 26 and 30 (or consent of instructor).

Naturalism, symbolism, decadence, the fin du siècle. French poetry and prose from 1870 to 1900. Readings of such authors as Zola, Mallarmé, Verlaine, Corbière, Rimbaud, Laforgue. Lectures and readings in French.

170X. Nineteenth-Century French Literature in Translation
(4) MALEUVRE, NESCI

Prerequisites: English 2 and 3 or consent of instructor.

Readings of selected nineteenth-century French authors such as Hugo, Baudelaire, Mallarmé, Verlaine, Rimbaud, Chateaubriand, Balzac, Stendhal, Flaubert, Zola. Lectures and readings in English.

170Y-Z. The Nineteenth-Century French Novel in Translation
(4-4) MALEUVRE, NESCI

Prerequisites: English 2 and 3 or consent of instructor.

Readings of works of nineteenth-century French novelists. First quarter: Balzac, Stendhal, Hugo, and other writers of the first half of the century. Second quarter: Flaubert, Zola, and other writers of the second half of the century. Principal themes, techniques, varieties of creative activity, relationship with other arts and with society. Lectures and readings in English.

171. The Romantic Movement in France
(4) MALEUVRE, NESCI

Prerequisites: French 26 and 30 (or consent of department).

A study of French romanticism as expressed in literature, art, and music and in the social and political life of France between 1820 and 1835. Lectures and readings in French.

171X. French Feminism in the Nineteenth Century
(4) NESCI

Prerequisites: English 2 and 3.

Feminism during the 1789 Revolution and throughout the nineteenth century. Main topics: women and the public sphere, the autonomous women's movement of the 1830s; feminist activism in 1848; Republican feminism after 1870. Lectures and readings in English.

172. Women in the Nineteenth Century: 1789-1848
(4) NESCI

Prerequisites: French 26 and 30.

A multidisciplinary approach to the study of women's sociopolitical status in postrevolutionary France. Analysis of the novelistic representation of women in various roles in conjunction with legal, medical, pedagogical, and historical documents which set societal standards for women.

172X. Literature and the Rise of the Modern World
(4) NESCI

Prerequisites: English 2 and 3 or consent of instructor.

A study of the role played by the creative artist in the process of cultural change: the impact of change on the artist; the opportunities that change gives the artist; the artist as world creator. Lectures and readings in English.

173. Balzac
(4) NESCI

Prerequisites: French 26 and 30 (or consent of department).

A study of selected works by one of the world's greatest novelist and one of the chief founders of modern fiction. Lectures and readings in French.

174. Le Roman d'éducation au 19ième siècle
(4) NESCI

Prerequisites: French 26 and 30 (or consent of department).

A study of novels dealing with the theme of the worldly education of a young man or woman. Lectures and readings in French.

174X. Aspects of the French Novel
(4) MALEUVRE, NESCI

Prerequisites: English 2 and 3 or consent of instructor.

A course whose specialized focus changes from quarter to quarter but in which reading assignments will be limited to major works by major authors, mostly of the nineteenth and twentieth centuries, e.g., Balzac, Stendhal, Flaubert, Zola, Proust, Gide, Camus. Lectures and readings in English.

175. The Romantic Novel
(4) MALEUVRE, NESCI

Prerequisites: French 26 and 30 (or consent of department).

A study of the novel of the 1830s, its main characteristics as a new emerging literary genre, and its main themes. Representative works by Balzac, Hugo, Sand, Gautier will be analyzed in depth. Lectures and readings in French.

175X. The French Revolution: Literature, Arts, and History
(4) NESCI

Prerequisites: English 2 and 3 or consent of instructor.

Study of the story behind the history of the French Revolution; reading of historical novels; analysis of modern interpretations of the Revolution and the Terror; gender and citizenship in revolutionary Paris; the legacy of the Revolution to the modern world. Lectures and readings in English.

176. Voyages en Amérique
(4) NESCI

Prerequisites: French 26 and 30 or consent of instructor.

Study of French travellers in America, from Chateaubriand and Tocqueville to Baudrillard. Focus on French readings of the American Dream, the confrontation between images of utopias and counter-utopias. The discovery of America as rediscovery of Europe.

177X. Literature and Religion in Modern France
(4) STAFF
Prerequisites: English 2 and 3 or consent of instructor.

Religious aspects of French fiction and poetry since the French Revolution. Readings of selected authors such as Hugo, Balzac, Flaubert, Baudelaire, Huysmans, Claudel, Gide, and Mauriac. Lectures and readings in English.

178. French Films since 1968
(4) GREENE
Prerequisites: French 26 and 30.

Examination of French films since 1968 seen in relation to culture and civilization. Lecture and readings in French.

178A-B-C. Special Topics in French Cinema
(4) GREENE
Prerequisites: French 26 and 30.

Special topics in French cinema such as recent film, the representation of history, the couterpoint of text and image. Different letters designate different areas of study.

178X. French Film: Theory and Practice
(4-4) GREENE
Prerequisites: English 2 and 3 or consent of instructor.

French film from its beginnings to the late 1930s. Course will view the relationship between film and the other arts (surrealism, cubism) as well as the way film reflects social and political issues. Jean Cocteau, René Clair. Lectures and readings in English.

178Y. French Film: Theory and Practice
(4) GREENE
Prerequisites: English 2 and 3 or consent of instructor.

The course focuses on French film from the late 1930s to the present. It pays particular attention to the emergence of New Wave directors such as Jean-Luc Godard and François Truffaut.

178Z. French Film: Special Topics
(4) GREENE
Prerequisites: English 2 and 3.

Special topics in French cinema such as recent film, the representation of history, the counterpoint of text and image, the relationship between film and the other arts, film iconography. Lectures and readings in English.

180A. Modern French Literature
(4) GREENE
Prerequisites: French 26 and 30 (or consent of department).

The course will examine literature from the early part of the century. Areas to be investigated may include Surrealism and/or Modernism and literary figures such as Proust, Gide, Cocteau.

180B. Modern French Literature
(4) GREENE
Prerequisites: French 26 and 30 (or consent of department).

The course, devoted primarily to the 1930s and 1940s, will examine novelists such as Bernanos, Queneau, Beckett, Céline, and Malraux, dramatists such as Anouilh and Giraudoux, and will discuss writers associated with Existentialism and/or later Surrealism (Prévert, Michaux, Eluard).

180C. Modern French Literature
(4) GREENE
Prerequisites: French 26 and 30 (or consent of department).

This course, devoted to aspects of French poetry, fiction, and film since World War II, may treat modern poets, "new novelists" (to be chosen among Sarraute, Duras, Robbe-Grillet, Butor), playwrights of the "absurd", and/or New Wave filmmakers.

180X. Existentialist Literature in Translation
(4) STAFF
Prerequisites: English 2 and 3 or consent of instructor.

Readings in fiction, drama, and philosophical essays from the French Existentialist movement. Readings will include Jean-Paul Sartre, Albert Camus, Simone de Beauvoir. The major existentialist themes (commitment, anguish, subjectivity, etc.) will be considered. Lectures and readings in English.

181. Contemporary French Literature
(4) STAFF
Prerequisites: French 26 and 30 (or consent of department).

From the Writing of Adventure to the Adventure of Writing. A study of contemporary works (Butor, Robbe-Grillet, Blanchot, Beckett, Sollers) and avant-garde movements ("Nouveau Roman," "Tel Quel") that challenge, at various levels, the very notion of "Literature."

181X. Narratology
(4) STAFF
Prerequisite: English 2 and 3 or consent of instructor.

Study of formal elements of narrative exemplified by various fictional genres. In addition to learning narrative theory, students will apply practical techniques of analysis to specific literary texts. Course should interest students in communication theory, anthropology as well as literature. Taught in English.

182. Literary Translation: Theory and Practice
(4) LÉVY
Prerequisites: French 26 or 30 or consent of department.

This course will explore the various theories of translation and offer a practical component where students will work on a specific translation project. Literary, philosophical, linguistic and theoretical texts by Jakobson, Benjamin, Steiner, Derrida and others will be examined.

183X. From Existential Phenomenology to Structuralism
(4) STURM
Prerequisites: English 2 and 3 or consent of instructor.

Intellectual movements in postwar France. Critical readings and discussion in literature, psychoanalysis, art, and systems. Sartre, Levy-Strauss, Lacan, Barthes, Foucault, and others. Lectures and readings in English.

184A-B. Contemporary French Poetry
(4-4) STAFF
Prerequisites: French 26 and 30 (or consent of instructor).

From Baudelaire to Prévert: a critical study of significant poems since 1857, against the background of Parnassian, symbolist, cubist, and surrealist ideas. Study of poetic materials and techniques. Several short papers, explications de texte, practice in translation. Lectures and readings in French.

184Z. Key Works of the French Cinema
(4) GREENE
Prerequisites: English 2 and 3 or consent of instructor.

A study of eight or so films (each by a different director), each of which is both important and artistically successful in itself and illustrative of a period or a tendency in the history of the French film. Lectures and readings in English.

185. Women in French Literature
(4) GREENE
Prerequisites: French 26 and 30 (or consent of department).

The course will examine the works of several contemporary women writers, including Simone de Beauvoir and Colette. Taught in French.

189. Literary France
(4) NESCI
Prerequisites: French 26 and 30 or consent of department.

The relationship between literature and society, and the evolution of the status of the writer from the seventeenth century to the present. Emphasis on the rise of the intellectual as hero at the time of the Dreyfus Affair.

189X. Literary France
(4) NESCI
Prerequisites: English 2 and 3 or consent of instructor.

The relationship between literature and society, and the evolution of the status of the writer from the seventeenth century to the present. Emphasis on the rise of the intellectual as hero at the time of the Dreyfus Affair. Taught in English.

190X. Cross-currents in Modern French and Italian Film
(4) GREENE
Prerequisites: English 2 and 3 or consent of instructor.

Will study interrelationship of French and Italian film from the 1930s to the present, examining Renoir, Italian neorealism, French new wave, the theorist André Bazin, once a great proponent of neorealism and spiritual father of the new wave. Lecture and readings in English.

192. Littérature de la Francophonie
(4) STAFF
Prerequisites: French 26 and 30.

Course deals with literature in French by writers outside France. Material of course includes representative authors and literary movements of Canada, Haiti, Senegal, Zaire, etc. Questions of national identity and literary relations will be discussed. Lectures and readings in French.

192X. Francophone African Novel in Translation
(4) STAFF
Prerequisites: English 2 and 3 or consent of instructor.

The course deals with the Francophone African novel in translation. Particular attention will be paid to politics, thematology, and the oral tradition in the novels. Writers include Camara Laye, Mongo Beti, Mariama Ba, and Yambo Ouologuem. Lectures and readings in English.

193X. Structuralism and Poststructuralism
(4) LÉVY
Prerequisites: English 2 and 3 or consent of instructor.

Study of fundamental concepts of structuralism and poststructuralism. Examination of the work of some of the following modern thinkers: Saussure, Jakobson, Lévi-Strauss, Barthes, Kristeva, Derrida, Lacan, Foucault, Lyotard, Serres. Lectures and readings in English.

194. Science and Fiction
(4) LÉVY
Prerequisites: French 26 and 30 (or consent of department).

Study of the interaction between science and literature in the modern period. Reading in the philosophy of science (Cuvier, Claude Bernard, Einstein, Heisenberg, Weiner, Mandelbrot) and literature (Balzac, Maupassant, Verne, Stevenson, Musil, Calvino, Ponge). Lectures and readings in French.

194X. Science and Fiction
(4) LÉVY
Prerequisites: English 2 and 3 or consent of instructor.

Study of the interaction between science and literature in the modern period. Reading in the philosophy of science (Cuvier, Claude Bernard, Einstein, Heisenberg, Weiner, Mandelbrot) and literature (Balzac, Maupassant, Verne, Stevenson, Musil, Calvino, Ponge). Lectures and readings in English.

195. The Poet's Identity
(4) LÉVY
Prerequisites: French 26 and 30 (or consent of department).

Study of the way poets present themselves through their poetry and the different functions they assign to their poetry. Close readings of French poetry from the late middle ages to the present. Lectures and readings in French.

196. Fantasy and the Fantastic
(4) LÉVY
Prerequisites: French 26 and 30 (or consent of department).

Exploration of the fantasy theme and fantastic literature in nineteenth- and twentieth-century French literature. Course will include some of these authors: Nerval, Nodier, Maupassant, Gautier, Villiers, Mérimée, Balzac, Breton, Paulhan. Lecture and readings in French.

196X. Fantasy and the Fantastic
(4) LÉVY
Prerequisites: English 2 and 3 or consent of instructor.

Exploration of the fantasy theme and fantastic literature in nineteenth- and twentieth-century French literature. Course will include some of these authors: Nerval, Nodier, Maupassant, Gauthier, Villiers, Mérimée, Balzac, Breton, Paulhan. Lectures and readings in English.

199. Independent Studies in French
(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in French. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual investigations in literary or linguistics fields.

199RA. Independent Research Assistance
(1-5) STAFF

Prerequisites: Student must have: 1) upper-division standing; 2) 3.0 grade-point average for three preceding quarters; 3) completion of two upper-division French courses, and 4) consent of instructor. Students are limited to 5 units per quarter and 30 untis total in all 198/199/199RA courses.

Independent research, under the supervision of a consenting faculty member.

GRADUATE COURSES

200AA-ZZ. Topics in French Literature
(2-4) STAFF

This course may be repeated provided the letter designation is different.

Studies of various topics in French literature. Specific seminar titles and contents will be announced prior to the beginning of each quarter. A. Travelling in the Renaissance.

201. Linguistics and Discourse Analysis
(4) COURTINE

Prerequisite: consent of instructor.

Discourse analysis, located at the intersection between linguistics and history, will be studied from its development in France in the 1970s. Focus on its application to various "discourses" including the social and the political.

202. Advanced Critical Writing
(4) ENDERS

Workshop on the style, structure, and ideology of crafting persuasive critical arguments and creating authority in writing (in French or English). Through analysis, critique, practice, and peer corrections, we focus on introductions, conclusions, definitions, proofs, refutation, interaction with sources.

203. Advanced French Phonetics
(4) STAFF

An accelerated review of the principles covered in French 103A-B-C, but without laboratory practice. An introduction to acoustic phonetics.

204A. History of French Language
(4) ASHBY

Prerequisites: one year of college Latin or equivalent or consent of instructor; French 203 or equivalent.

The linguistic history of French, stressing the major changes in the phonological, morphological, and syntactic systems from Latin to modern French.

204B. Old French Philology
(4) ASHBY

Prerequisites: one year of college Latin or equivalent or consent of instructor; French 203 or equivalent and French 204A.

Reading and linguistic analysis of old French texts.

205. Bibliography and Research Techniques
(2) TOBIN

Open to qualified undergraduates by petition and consent of instructor. Recommended for all graduate students concerned with, or specializing in, French literature.

A brief introduction to bibliographical theory and practice, the principal bibliographies, and other sources of information useful for the study of French literature, and ways of obtaining different types of information having to do with French literature.

206. Introduction to Old French
(4) BROWN, ENDERS

Introduction to Old French and examination of a number of early medieval works.

207. Literary Criticism: Medieval and Modern
(4) BROWN ENDERS

Prerequisite: consent of instructor.

A stufy of key critical texts of the medieval student and/or modern medievalist, including literary prologues (Marie de France, Chrétien, Mauchat), scholastic treatises, and the theories of *mouvance* (Zumthor) and medieval alterity (Jauss).

208. Studies in French Linguistics
(4) ASHBY

Prerequisites: may be repeated with different topics for a maximum of 20 units.

Selected problems in linguistics will be studied with a different specialization each quarter.

216. Narratology
(4) STAFF

Course taught in English, although knowledge of French is required.

Course will study the structures, modes, and levels of fictional narrative by applying recent analytical methods to selected texts: formalism, structuralism, semiotics, deconstruction, etc. Students will analyze their own story after an analytical model for an oral report and term paper.

218. Ideology in the Text
(4) NESCI

Prerequisite: graduate standing.

Course will study the notion of ideology as a formal principle in narrative, using the theories of Bakhtin and Uspensky and their French followers (e.g., Hamon, Greimas). Specific texts will be analyzed.

221. The Post-Rhetorical Age
(4) COURTINE

Prerequisite: consent of instructor.

The transformation of political speech-making from the town square to the media age. We will study textual and audio-visual sources on eloquence, crowd psychology, totalitarian and democratic scenes of speech-making, and political communication in the televison age.

222. Linguistique Structurale et Analyse Structurale des Textes
(4) COURTINE

Prerequisite: consent of instructor.

The founding principles of structural linguistics, and how linguistic methods can be applied to the analysis of literary texts (Barthes, Greimas), folktales (Propp), myths or genealogies (Lévi-Strauss), semiology (Barthes, Prieto) and psychoanalysis (Lacan).

224. History of the Body: Expression of Emotions, 16th - 19th Centuries
(4) COURTINE

Prerequisite: consent of instructor

Focus on body language as it has been transmitted historically through such sources as medical treatises, literary works, portraits and photographs, in order to understand how individual expressiveness is affected by cultural conditioning.

225. Discourse and the Body: Foucault in France and the U.S.
(4) COURTINE

Prerequisite: consent of instructor.

Focusing on the critical works of Michel Foucault in their historical context, the course will explore the sometimes contradictory readings of French post-structuralism in France and America.

235. The Medieval Book as Literary Artifact.
(4) BROWN

Prerequisites: consent of instructor.

Study of the materiality of books as critical to understanding literary works, especially during, but not limited to, the Middle Ages. Emphasis on the dynamic interaction between text and paratext, between writers and patrons, between authors, scribes and editors.

236AA-ZZ. Studies in Medieval Literature
(4) STAFF

This course may be repeated provided the letter designation is different.

In-depth study of selected texts of medieval literature. A: From Oral to Written. B: "Courtly Love" and "Courtly Romance." C: Words and Music. D: The Dynamics of Allegory. E: Late Medieval Textuality and Poetic Authority. F: Theater and Theatricality, G: Representations of Medieval Gender.

237. The Book in Performance
(4) BROWN, ENDERS

Prerequisites: consent of instructor.

A study of the intersection between the medieval book and medieval drama, including the performative qualities of the medieval text, the drama of the page, and the "livresque" qualities of theater.

240A-E. Studies in the Sixteenth Century
(4) SKENAZI

Prerequisite: consent of instructor. This course may be repeated provided the letter designation is different.

A. Rabelais; B. Pléiade; C. Montaigne and Marguerite de Navarre; D. French Renaissance Theatre; E. Renaissance Court Poetry. Study in depth of selected texts of the sixteenth century.

241. Figures of Instability
(4) SKENAZI

Representation of fragmentation and change in the works of Du Bellay and Montaigne.

242A. Medieval Rhetoric and Literature
(4) ENDERS

Prerequisites: consent of instructor.

As a veritable theory of literature, rhetoric instilled skills in memory, performance, structure, style, and creativity. Readings focus on the kinship between rhetoric and literature as exemplified in such authors as Chrétien, Abélard, Machaut, Gréban, Jean de Meung, and Christine de Pizan.

242B. Modern Theories of Rhetoric
(4) SKENAZI

Prerequisite: consent of instructor.

A study of figures of discourse such as metonymy and metaphor. Works of Fontanier, Jakobson, Genette, Lacan, Derrida, and Ricoeur.

250A-H. Studies in the Seventeenth Century
(4) TOBIN

This course may be repeated provided the letter designation is different.

Study in depth of selected texts of the seventeenth century. A. Corneille; B. Racine; C. Molière; D. Pascal; E. La Fontaine; F. Moralistes; G. Classical Hero; H. The Baroque.

260A-I. Studies in the Eighteenth Century
(4) MACARTHUR, STURM.

Prerequisite: graduate standing, or consent of instructor. This course may be repeated provided the letter designation is different

Texts of the eighteenth century. C. Rousseau; D. The Novel; E. Political Thought in Belletristic Literature; F. Utopia in the Siècle des Lumières; G. Man against Myth; H. Negation and Myth in the Age of Enlightenment; I. Reason and Nature in the Enlightenment.

261. Rousseau and His Critics
(4) STAFF

A study of Rousseau's major works as a point of departure in a review of past and present critical views.

262. The Confessional Urge: Studies in French Autobiography
(4) STURM

A critical inquiry into motivation and strategies of the genre. Casanova, Rétif, Rousseau, Leiris, Adamov, Sartre, Barthes, and others in selected texts. Psychoanalytic orientation.

263. Rousseau and the Alienation of Modern Man
(4) STURM

In condemning the enlightenement notion of progress, Rousseau became the first thinker to anticipate the dehumanized edifice of the modern era. Discussion of his views on politics, art, education, and his extraordinary influence will be considered through Freud and Marcuse.

265. The Epistolary Form
(4) MACARTHUR

Prerequisite: graduate standing.

Study of real and fictional correspondences in the light of recent criticism. Emphasis on problems of epistolary narrative, and on the association between women and letter writing. Works by Abélard and Héloise, Guilleragues, Laclos, Charrière, Balzac, Colette.

270AA-ZZ. Studies in the Nineteenth Century

(4) MALEUVRE, NESCI

This course may be repeated provided the letter designation is different

Study in depth of selected texts of the nineteenth century. A. Balzac; B. Stendhal; C. Flaubert; D. Zola; E. Romantic Poetry; F. Baudelaire; G. Symbolism; H. Literature of the Second Empire; I. Theater; J. Hugo. K. Roman et Révolution.

270L. Literature and Society in the Novel

(4) NESCI

Prerequisites: graduate standing or consent of instructor.

An inquiry into literature as a socio-political institution. Topics covered will be the representation of sexuality and the family in realism; the notion of text as social practice; the socio-cultural codes and modes that frame the literary representation.

272. Structuralist and Poststructuralist Poetics

(4) NESCI

This course will focus on structuralist and poststructuralist poetics through the study of main concepts such as text, intertextuality, literarity. Special attention will be given to the different theories of sign as developed by Semiotics and interpretative Hermeneutics.

273. Confession and Fiction in the Nineteenth Century

(4) NESCI

Course analyzes a particular kind of novelistic production: mise en scène of young man as hero—and antihero—of a first person narrative, through the representation of society and history, the role of language and women in narrative strategies.

275. Poetry and Communication Theory

(4) LÉVY

What constitutes the poetic message? How is it transmitted? What rules of communication does it follow and which ones does it break? This seminar will attempt to answer these questions through the study of seventeenth-, nineteenth-, and twentieth-century poets.

276. The Theory of Fantastic Literature

(4) LÉVY

Study of the current theories of fantastic literature and their limitations. Works by some of the following authors will be examined: Cazotte, Nerval, Gautier, Mérimée, Nodier, Villiers, Maupassant, Apollinaire, Breton, Genet, Paulhan.

277. The Representation of Science in Nineteenth- and Twentieth-Century Literature

(4) LÉVY

Focus on the epistemological, theoretical implications and the cultural impact that the philosophy of modern science brings to the study of literature.

280A-M. Studies in the Twentieth Century

(4) GREENE, MURRAY

This course may be repeated provided the letter designation is different.

Study in depth of selected texts of the twentieth century. A. Proust; B. Gide; C. Apollinaire; D. Existentialism; F. Theatre; G. Essay; H. Surrealism; I. Valéry; J. Contemporary Criticism; K. Camus; L. Politics and Literature; M. Sartre.

281. Literature and Philosophy in Twentieth Century Writing

(4) STURM

Modern perspectives in methodology, psychoanalysis, aesthetics, and politics, and their relation to the reading of literary texts. Mainly Sartre and Marcuse.

283. Francis Ponge

(4) LÉVY

Study of Francis Ponge as both poet and theoretician of literature. Particular attention will be paid to his writings which invoke the sciences.

284. Contemporary Poetry

(4) LÉVY

Survey of French poetry since 1945. Francis Ponge, René Char, Henri Michaux, Michel Deguy, Lorand Gaspar, Edmond Jabès, Jacques Dupin, André DuBouchet.

285. Twentieth-Century Poetry

(4) LÉVY

Valéry, Apollinaire, Reverdy, Jacob, Desnos, Eluard Breton, Artaud, Char, Ponge, Michaux, Perse, Bonnefoy.

287. French Film and Theory

(4) GREENE

Analysis of French film that will attempt to integrate a cultural-historical approach together with some theoretical considerations.

290. Readings in Twentieth Century Alienation

(4) STURM

The individual at odds with the myths and structures of the modern world, as perceived in his psychological, cultural, and aesthetic dimensions. Selected works by: Sartre, Camus, Beckett, Genet, Foucault, and others.

291. Africanist Discourse in French

(4) STAFF

Course is concerned with the manner in which imaginative writers in France participated in Africanist discourse. We will examine the question of "blackness" and the "other" in French ethnology and colonialism, as well as in texts by Baudelaire, Sade, etc.

292. Biography as Myth and Reality

(4) STURM

The real and imaginary "Case Studies" of Sartre and Freud. The orientation of the course will be philosophical and psychoanalytic.

293. Penser à Partir de Sartre: Philosophie, Fiction et Vérité

(4) STURM

Sartre's ambition to grasp all aspects of twentieth-century human experience ("totalisation") through his phenomenological approach will be investigated through his major texts and critical works.

500. Apprentice Teaching

(4) SIMONS

Units earned in this course, which is required of all teaching assistants, do not apply toward degree.

Includes orientation week, weekly meetings with supervisor, preparation of examinations, class visitations and discussions, videotaping of classes followed by review with supervisor, occasional workshops.

596. Directed Reading and Research

(2-6) STAFF

Students must take a minimum of 2 units per quarter. This option may be taken only in addition to two regularly scheduled seminars in French in any given quarter. Letter grade given.

Individual tutorial. Instructor usually student's major professor. Students doing initial research on the doctoral dissertation may sign up for this course.

597. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations

(1-12) STAFF

No unit credit allowed toward degree. S/U grade.

Instructor normally should be the student's major professor or chair of the doctoral committee. This option will be permitted only in exceptional circumstances.

598. Master's Thesis Research and Preparation

(1-12) STAFF

No unit credit allowed toward degree. S/U grade.

Only for research underlying thesis, writing thesis. Instructor should be chair of student's thesis committee.

599. Dissertation Research and Preparation

(1-12) STAFF

Only for the writing of the doctoral dissertation. Instructor should be chair of student's doctoral committee.

French Literature and Film Taught in English

Courses for which no knowledge of French is required. An undergraduate major in French with a literature emphasis may enroll for credit in two quarters of any French literature or film course in English translation. French majors with a linguistics emphasis may enroll in only one such course. See course descriptions above.

68X. Adultery in French Literature

(4) MacArthur

106X. Women in France: Images and Realities

(4) Brown, Greene

121X. Private Life in France in the 16th - 18th Centuries

(4) Courtine

122AX - KX. Collective Memory in Contemporary France

(4...4) Courtine

130X. Prosecution and Persecution in the Middle Ages

(4) Enders

131X. Performing Gender in the Middle Ages

(4) Enders

132X. Women on Trial

(4) Enders

133X. Words and Music in the Middle Ages

(4) Enders

136X. Women in the Middle Ages

(4) Brown

137X. Medieval Literature in Translation

(4) Brown

141X. Rabelais in Translation

(4) Staff

142X. French Theatre in Translation

(4) Skenazi

150X. Seventeenth-Century French Literature in Translation

(4) Tobin

160X. The Power of Negative Thinking: Sartre, Adorno, and Marcuse

(4) Sturm

161X. The Utopian Tradition

(4) Sturm

163X. Diderot, Fiction, and Role-playing

(4) MacArthur

164X. Rousseau and the Confessional Urge

(4) MacArthur

166X. Sartre: Recounting Lives

(4) Sturm

167X. Problems of Ending in Poetry and Fiction

(4) MacArthur

170X. Nineteenth-Century French Literature in Translation

(4) Maleuvre, Nesci

170Y-Z. The Nineteenth-Century French Novel in Translation

(4-4) Maleuvre, Nesci

171X. French Feminism in the Nineteeth Century

(4) Nesci

172X. Literature and the Rise of the Modern World

(4) Nesci

174X. Aspects of the French Novel

(4) Murray

175X. The French Revolution: Literature, Arts, and History
(4) Nesci

177X. Literature and Religion in Modern France
(4) Staff

178X-Y. French Film: Theory and Practice
(4-4) Greene

178Z. French Film: Special Topics
(4) Greene

180X. Existentialist Literature in Translation
(4) Staff

181X. Narratology
(4) Staff

183X. From Existential Phenomenology to Structuralism
(4) Sturm

184Y. French Film Directors
(4) Greene

184Z. Key Works of the French Cinema
(4) Greene

189X. Literary France
(4) Nesci

190X. Cross-Currents in Modern French and Italian Film
(4) Greene

191X. Contemporary French Film and Culture
(4) Greene

192X. Francophone African Novel in Translation
(4) Staff

193X. Structuralism and Poststructuralism
(4) Lévy

194X. Science and Fiction
(4) Lévy

196X. Fantasy and Fantastic
(4) Lévy

Italian Courses

LOWER DIVISION

Italian 1-6: All students progress at the same rate of speed and cover the same amount of material. At the end of the quarter all students who pass receive 4 units of credit. Mastery of each instructional unit is encouraged but not required before the student proceeds to the next. As a result, the final grades for the quarter will be in the traditional range of A through F. Class and laboratory attendance are required. The instructor is primarily responsible for directing student learning. Tests are given to all students during regular classes at fixed times. Students who have studied Italian at other institutions and who wish to continue the study of these languages at UCSB are required to take the placement examination given by the department.

1. Elementary Italian
(4) STAFF

Introduction to the most basic elements of Italian grammar. Articles, adjectives, gender. Verbs in the present tense. (F,W)

2. Elementary Italian
(4) STAFF

Prerequisite: Italian 1 or equivalent.

Logical continuation of Italian 1. Direct and indirect pronouns. Verbs in the past tense and the imperfect. Emphasis on the correct writing and speaking of Italian. (F,W,S)

3. Elementary Italian
(4) STAFF

Prerequisite: Italian 2 or equivalent.

Continuation of Italian 2. Verbs in the future, conditional. Introduction to subjunctive. Further emphasis on the correct writing and speaking of Italian.

4. Intermediate Italian
(4) STAFF

Prerequisite: Italian 3 or equivalent.

The beginning of 2nd year Italian, which is more demanding than the first year. Emphasis on reading and comprehension of modern texts, with comprehensive review of grammar.

5. Intermediate Italian
(4) STAFF

Prerequisite: Italian 4 or equivalent.

Logical continuation of Italian 4, based on reading and comprehension of more elaborate texts.

6. Intermediate Italian
(4) STAFF

Prerequisite: Italian 5 or equivalent.

Reading and comprehension of chosen texts (short stories, etc.) and compositions. Readings chosen from such representative anthologies as Tempi Moderni (Burney).

8A-B. Italian Conversation
(2-2) STAFF

Prerequisite: Italian 3 or consent of instructor.

Contemporary issues to be selected by instructor. Debates and discussion to be organized among students themselves.

11A-B. Italian for Graduate Students
(4-4) STAFF

Prerequisite: Italian 11A for 11B.

A service course for graduate students from other departments who need to satisfy language requirements. Divided into two levels: 11A (elementary level) for those who have no, or hardly any, knowledge of Italian; 11B (intermediate level) open to students who have an appropriate level of knowledge of the language, and to continuing students from 11A. Class meets twice weekly, offers grammatical preparation and practice for translation, but no individual projects.

16Y. Literature and Culture of the Italian Renaissance
(4) BONADEO

Prerequisites: English 2 and 3.

A study of the literature and culture of the Italian Renaissance through the works of tis major exponents: Machivelli, Ariosto, Castigione, Tasso, Cellini, Michelangelo. In English.

26. Reading and Composition
(4) STAFF

Prerequisite: Italian 6 or equivalent.

Course designed to improve students' ability to write and read Italian, and to ease the transition to upper-division courses. Emphasis on grammar review, translation, composition, and the study of selected texts.

39X. Medieval and Renaissance Literature
(4) LAWTON

Prerequisites: English 2 and 3.

An introductioin to the major Italian writers in the Middle Ages and the Renaissance. Writers include Dante, Petrarch, Boccaccio, Machiavelli and Ariosto.

UPPER DIVISION

Please note: Italian 6 or consent of the department is a prerequisite to all upper-division courses taught in Italian, except where specially noted.

101. Advanced Reading and Composition
(4) STAFF

Prerequisite: Italian 1-6 and Italian 26.

Advanced reading and composition. Introduction to literature and literary analysis through careful readings of selections from major contemporary authors.

102. Advanced Reading and Literary Analysis
(4) STAFF

Prerequisites: Italian 6 or consent of instructor.

A further development of Italian 101 designed to introduce students to more advanced readings in poetry and prose and to provide training in the methodology of literary analysis. A preparation for upper-division literature courses in Italian. Lectures and readings in Italian.

106A. Italian Literature of the Nineteenth Century
(4) STAFF

Prerequisite: Italian 6 or consent of instructor. Students who have received credit for Italian 119A may not take this course for credit.

Survey of modern Italian literature of the nineteenth century. Lectures and readings in Italian.

106B. Italian Literature of the Twentieth Century
(4) STAFF

Prerequisite: Italian 6 or consent of instructor. Students who have received credit for Italian 119B may not take this course for credit.

Survey of modern Italian literature of the twentieth century. Lectures and readings in Italian.

106X. History and Culture of Italy: Middle Ages to Renaissance
(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

Italian culture from the Middle Ages to the High Renaissance. A study of the major institutions. From the communes to the free republics and the development of humanism.

106Y. History and Culture of italy: Enlightenment and Risorgimento
(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

Enlightenment and Risorgimento. Arts and society in italy from the age of reform to the final struggle for national unity. Taught in English.

106Z. History and Culture of Italy: Twentieth Century
(4) LAWTON

Prerequisites: English 2 and 3 or consent of instructor.

Arts and society and their mutual impact in Italy in the 20th century. Fascist and anti-fascist currents in social thought, and the re-establishment of democracy.

110. Letteratura del Medioevo Italiano
(4) BONADEO

Prerequisites: Italian 6 or consent of instructor. Maximum credit allowed for completing Italian 110A-B-C/ 110 is 12 units.

An inquiry into the literary, ethical, and political meaning of the Middle Ages through the study of the works of Dante, Petrarch, and Boccaccio. Lectures and readings in Italian.

114X. Dante: The Divine Comedy: Inferno
(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

An inquiry into the ethical, spiritual, and historical values of the first part of Dante's masterpiece. Lectures and readings in English.

114Y. Dante: The Divine Comedy: Purgatory and Paradise
(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

The interpretation of the second and last parts of Dante's masterpiece, "Purgatory" and "Paradise." Lectures and readings in English.

114Z. Petrarch and Boccaccio
(4) BONADEO

Prerequisites: English 2 and 3 or consent of instructor.

An inquiry into the spiritual and psychological world of Petrach's Canzoniere, and into the social and ethical world of Boccaccio's Decameron. Lectures and readings in English.

116. La Letteratura del Rinascimento
(4) BONADEO

Prerequisites: Italian 6 or consent of instructor. Maximum credit allowed for completing Italian 116A-B-C/ 116 is 12 units.

An inquiry into the literary, ethical, and political meaning of the Renaissance through the study of the period's major works by Machiavelli, Ariosto, Tasso, and Michelangelo. Lectures and readings in Italian.

116X. Machiavelli and the Language of Politics

(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

A study of class conflicts, the uses of power, and the nature of war in the works and times of Machiavelli. Lectures and readings in English.

116Y. Love and Chivalry in the Italian Renaissance

(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

A study of the practice and ideal of love and chivalry within the social context of the times of Ariosto, Castiglione, Tasso, and Cellini. Lectures and readings in English.

117. Italian Literature of the Eighteenth Century

(4) STAFF

Prerequisite: Italian 6.

The cultural and intellectual background of Illuminismo with an emphasis on Goldini, the Verri Brothers, Parini, Alfieri. Lectures and readings in Italian.

118A. Modern Italian Novel

(4) STAFF

Prerequisite: Italian 6.

Discussion of the major Italian novelists of the twentieth century such as Pirandello, Moravia, Tomasi, Vittorini, Pavese. The history of the novel in modern times also discussed. Lectures and readings in Italian.

118B. Modern Italian Poetry

(4) STAFF

Prerequisite: Italian 6.

Italian poetry from Carducci to contemporary poets. Lectures and readings in Italian.

119X. Italian Literature in the Eighteenth Century

(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

The cultural and intellectual background of Illuminismo with an emphasis on Goldoni, the Verri Brothers, Beccaria, Parini, Alfieri. Lectures and readings in English.

120A. Leopardi

(4) BONADEO

Prerequisites: Italian 6 or consent of instructor. Students who have received credit for Italian 115A may not take this course for credit.

The art and thought of Leopardi through the *Operette Morali* and the major *Canti*.

130X. Italian Women Writers

(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

The course explores works by Italian women writers in this century. It also provides some historical and literary context for the readings and references to images of women which appear in works by major Italian writers. Lectures and readings in English.

139X-Y-Z. Survey of Italian Literature in Translation from Origins to Twentieth Century

(4-4-4) LAWTON

Prerequisites: English 2 and 3 or consent of instructor.

X: Medieval and Renaissance literature from St. Francis to Ariosto.

Y: From the seventeenth to the nineteenth century (Baroque to Romanticism). Major authors include: Galileo, Parini, Alfieri, Leopardi, Manzoni.

Z: Twentieth-century Italian literature. Includes the study of futurism, Pirandello, Moravia, Silone, Pavese, etc. Lectures and readings in English.

140X. Modern Italian Literature

(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

Themes and trends in modern Italian literature (Verismo, Futurismo, Poesia Ermetica). The course examines how philosophical, cultural, and political movements influenced the authors of this period. Particular attention will be given to the works of Verga, Pirandello, Montale, and Moravia. Lectures and readings in English.

145X Modern Poetry in Romance Literature

(4) STAFF

Prerequisites: English 2 and 3 or consent of instructor.

The development of poetry in Romance literature from its origins in the nineteenth century to contemporary times. Works by Baudelaire, Rimbaud, Mallarmé, Lorca, Ungaretti, Montale and others. Class discussions. Reading and lectures in English.

150A. L'autobiografia Italiana

(4) MAROTTI

Prerequisite: upper-divsion standing or consent of instructor.

L'autobiografia italiana provides students with a theoretical background on the autobiographical genre while it follows its cultural and historical development in Italian literature from the Middle Ages to the present. Lectures and readings in Italian.

150B. The Resistance in Italian Literature

(4) STAFF

Prerequisites: Italian 6 or consent of instructor.

Between 1945-1950, many Italian authors wrote of their wartime experiences in the Resistance. Their accounts are political and social documents of a unique historical period. Writers include Elio Vittorini, Cesare Pavese, Italo Calvino, and Renata Vigano.

151. Twentieth-Century Italian Poetry

(4) STAFF

Prerequisites: Italian 6 or consent of instructor.

This course will explore twentieth-century Italian poetry through the works of Ungaretti, Montale, Quasimodo, Zanzotto, and Luzi, as well as outstanding contemporary women poets such as Amelia Rosellini, Maria Luisa Spaziani, Rossana Ombres, and Patrizia Cavalli.

152. Narrative and Film

(4) STAFF

Prerequisites: Italian 6 or consent of instructor.

Narrative structure in fiction and film, point of view, the language of film, and social and historical context will be considered. Authors include Moravia, Bassani, Levi, and Buzzati.

153. Italy as Literary Image

(4) STAFF

Prerequisites: Italian 6 or consent of instructor.

Italy as portrayed in the works of non-Italian 19th and 20th century writers: Goethe, Stendhal, Byron, Keats, Shelley, Henry James, D.H. Lawrence, Twain, Pound, Durrel. The course will consider how these perpetuated or rejected the myth of Italy.

178. Italian Cinema

(4) STAFF

Prerequisite: Italian 6 or consent of instructor.

Contemporary Italian cinema from neorealism to the present. Particular attention will be given to major directors such as: Rossellini, Fellini, Visconti, Antonioni, and De Sica. Lectures and readings in Italian.

180Z. Italian Cinema

(4-4-4) LAWTON

Prerequisites: English 2A-B.

A survey of the major trends and directors in Italian cinema since World War II. Directors to be studied include: Rossellini, De Sica, Visconti, Fellini, Antonioni, and Rosi.

199. Independent Studies in Italian

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in Italian. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual investigations in literary fields.

199RA. Independent Research Assistance

(1-5) STAFF

Prerequisites: students must have: 1) upper-division standing; 2) 3.0 grade-point average for three preceding quarters; 3) completion of two upper-division Italian courses; and 4) consent of instructor. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses.

Independent research, under the supervision of a consenting faculty member.

GRADUATE COURSE

596. Directed Reading and Research

(1-6) STAFF

Prerequisites: graduate standing and consent of instructor. May be repeated for credit.

Individual tutorial.

Italian Literature and Film Taught in English

Courses for which no knowledge of Italian is required. See course descriptions above.

16Y. Literature and Culture of the Italian Renaissance

(4) Staff

39X. Medieval and Renaissance Literature

(4) Lawton

106X-Y-Z. History and Culture of Italy in Translation

(4-4-4) Lawton

114X. Dante: The Divine Comedy: Inferno

(4) Staff

114Y. Dante: The Divine Comedy: Purgatory and Paradise

(4) Staff

114Z. Petrarch and Boccaccio

(4) Staff

116X. Machiavelli

(4) Staff

116Y. Love and Chivalry in the Italian Renaissance

(4) Staff

119X. Italian Literature in the 18th Century

(4) Staff

130X. Italian Women Writers

(4) Marotti-Ceder

139X-Y-Z. Survey of Literature in Translation

(4-4-4) Lawton

140X. Modern Italian Literature

(4) Staff

145X. Modern Poetry in Romance Literature

(4) Staff

180Z. Italian Cinema

(4) Lawton

Geography

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Department Chair: Joel C. Michaelsen

Faculty

Luc Anselin, Ph.D., Cornell University, Professor *(regional science, spatial econometrics, urban planning, conflict analysis)*

Richard L. Church, Ph.D., Johns Hopkins University, Professor *(facilities location and related computational algorithms, urban and regional modeling/planning, water resources)*

Helen Couclelis, Ph.D., Cambridge University, Professor *(spatial cognition and behavioral ge-*

ography, urban and regional theory and modeling, planning, the philosophy of science)

Frank Davis, Ph.D., Johns Hopkins University, Associate Professor *(biogeography, plant ecology, remote sensing, information systems and conservation planning)*

Jeff Dozier, Ph.D., University of Michigan, Professor *(snow science, remote sensing, information systems, environmental optics, earth system science)*

John E. Estes, Ph.D., UC Los Angeles, Professor *(remote sensing, emphasizing sensor and information systems, land-use study, regional resource base determination and evaluation)*

Catherine Gautier, Ph.D., University of Paris, Professor *(earth radiation budget and cloud processes, large-scale hydrology and surface/atmosphere interaction, radiative transfer and remote sensing, global climate processes and earth system science)*

Reginald G. Golledge, Ph.D., University of Iowa, Professor *(spatial cognition, behavioral geography and decision making)*

Michael F. Goodchild, Ph.D., McMaster University, Professor *(spatial analysis and geographic information systems)*

David Lanter, Ph.D., University of South Carolina, Assistant Professor *(geographic information processing, artificial intelligence, knowledge-based techniques)*

Hugo A. Loaiciga, Ph.D., UC Davis, Associate Professor *(water resources, surface and groundwater hydrology)*

Leal Mertes, Ph.D., University of Washington, Assistant Professor *(fluvial geomorphology, remote sensing of wetlands, long-term evolution of large river systems, Amazon River)*

Joel Michaelsen, Ph.D., UC Berkeley, Associate Professor *(climatology/meteorology, climate change, marine resources, temporal and spatial statistics)*

Daniel Montello, Ph.D., Arizona State University, Assistant Professor *(spatial perception, cognition and behavior; spatial aspects of social behavior; environmental psychology)*

James Proctor, Ph.D., UC Berkeley, Assistant Professor *(philosophical and theoretical issues in environmental geography)*

David Siegel, Ph.D., University of Southern California, Assistant Professor *(physical oceanography, numerical modeling and supercomputing, bio-optical oceanography, turbulence, air-sea interaction and theoretical ecology)*

Raymond C. Smith, Ph.D., Stanford University, Professor *(optical/biological/physical oceano-graphy, marine resources, remote sensing of the oceans, earth system science)*

Terence R. Smith, Ph.D., Johns Hopkins University, Professor *(spatial data processing, spatial analysis, spatial databases, knowledge-based approaches to geographic information systems)*

Waldo R. Tobler, Ph.D., University of Washington, Professor *(analytical cartography, mathematical and computer modeling of dynamic geographic relations)*

Libe Washburn, Ph.D., UC San Diego, Assistant Professor *(physical oceanography, ocean turbulence and mixing processes, ocean bio/optics, air-sea interaction and marine pollution)*

Affiliated Faculty

John M. Melack, Ph.D. (Biological Sciences)

The geography major is designed to provide a fundamental background for students seeking an interdisciplinary understanding of the world; to offer training for careers in business, government, and teaching; to prepare students for graduate studies in theoretical and applied work in geography; and to prepare students to conduct original research.

The program is organized around systematics courses and a range of quantitative and computer techniques, and students will normally acquire familiarity with elements of both. Students interested in becoming professional geographers are encouraged to develop additional expertise in one or more related disciplines. Specific individual programs may be worked out in consultation with advisers.

Undergraduate advisers are available for consultation throughout the year. A faculty member acts as adviser to graduate students and is available for consultation, by appointment, throughout the year. Prospective or new students should speak with an adviser when they arrive on campus.

After completing specific prerequisites, students with a bachelor's degree in geography are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—Geography

Preparation for the major. Required: Geography 3; Geography 5; one of the following: Biology 20 or Botany 20 or Environmental Studies 13 or Geology 2 or Natural Science 1C. Strongly recommended: Geology 117, one course in statistics, and one course in computer programming.

Upper-division major. Thirty-six upper-division units in geography are required, distributed as follows:

A. 8 units from systematics courses: 102, 104, 105, 108, 110, 111, 112, 113, 114, 114L, 116, 116L, 119, 120, 121, 122A, 124, 126, 130, 133, 134, 144, 145, 146, 153A-B-C-D, 162, 162L, 163A-B, 166, 167, 168, 169, 170, 170L, 185A-B-C-D, 190, 195, 198, 199, 199RA (consult adviser for unit limitations on 198/199 courses);

B. 8 units from techniques courses: 103, 115A-B-C-AL-BL-CL, 117A-B, 118A-B, 122B, 127, 129, 136, 138, 164, 172A, 172AL, 172B, 172BL, 176A-B-C, 181, 184A-B, 191, 191L, 193 (only 4 units of 193 may be applied to the major);

C. 4 units from regional courses: 148, 150, 154, 155, 156, 157, 158, 159;

D. Upper-division geography electives to bring total to 36. A maximum of 8 upper-division units from related fields may be included, selected from a list of approved alternatives or by petition. Students who plan to obtain teaching credentials should not utilize this option.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Admission

In addition to fulfilling the general requirements for admission to graduate status, the department requires a high undergraduate scholastic average, particularly during the last two years of undergraduate study. An undergraduate degree in geography is not required. Applicants with strong academic backgrounds in specfic systematic study areas are strongly encouraged to apply. All applicants are required to submit verbal, quantitative, and analytical Graduate Record Examination scores; total combined scores on the verbal and quantitative portions of the exam should exceed 1100. Some undergraduate preparation in mathematics, statistics, and computer programming is encouraged.

For most students, a master's degree or equivalent will be required for admission to the doctoral program. In unusual circumstances, highly qualified candidates may be admitted without the M.A. degree.

Completed applications are due no later than March 1; however, students who wish to be considered for financial support must apply by January 15.

Master of Arts—Geography

Degree Requirements

The M.A. degree may be obtained under either of two plans. Plan 1 requires 34 units, at least 20 in geography, plus a thesis suitable for publication. Plan 2 requires 46 units, at least 28 in geography, plus a final examination assessing general knowledge of geography and knowledge of the candidate's chosen specialty.

Doctor of Philosophy—Geography

Degree Requirements

A variety of Ph.D. programs can be generated based on selections of major systematic and minor techniques emphases.

Systematics Areas

1. Urban and Regional Modeling and Planning
2. Behavioral Geography
3. Natural Resource Modeling and Management
4. Earth System Science, including:
   a. Hydrology
   b. Meteorology
   c. Oceanography
   d. Vegetation Modeling

Techniques Areas

1. Remote Sensing
2. Geographic Information Systems
3. Computer Cartography
4. Numerical Modeling and Quantitative Analysis

All Ph.D. students must major in a systematic area of study and are expected to develop great depth in techniques areas but will be tested only in one technical area. No foreign language is required.

All doctoral candidates must serve as teaching assistants for at least one quarter.

Students will be required to take a diagnostic interview to assist in the preparation for undertaking a doctoral program in geography. Before advancement to candidacy, students must pass both a written and an oral qualifying examination and secure approval of a dissertation proposal.

UCSB/San Diego State University Joint Ph.D. Program

The Departments of Geography at San Diego State University (SDSU) and UCSB have joined resources to offer a distinctive doctoral program. It brings together the faculties and facilities of two outstanding institutions. Students will spend a minimum of one year on each campus and will normally finish their work at SDSU. The joint program will complement but not duplicate the existing Ph.D. program at UCSB, which will continue to function separately from the joint doctoral program. Applications should be made to the joint doctoral program coordinator at SDSU.

The Department of Geography will make available relevant catalog information in a form suitable for access to disabled groups upon request.

Geography Courses

LOWER DIVISION

1. The Earth From Space

(4) GAUTIER, R. SMITH

Lecture, 3 hours; discussion, 1 hour.

Physical and human geography at global scales through remote sensing from Earth-orbiting satellites. Examination of contemporary problems and global change, over both land and ocean: climate and hydrologic systems, biogeochemical dynamics, ecological systems, human interactions, and solid Earth processes. (W)

3. Physical Geography

(4) DOZIER, DAVIS, MICHAELSEN, T. SMITH

Required of all majors. Lecture, 3 hours; discussion, 1 hour.

Survey of man's physical environment. Distribution and interrelationships of atmospheric phenomena, climate, soils, plant and animal communities, and landforms. (F,W,S)

5. Socioeconomic Geography

(4) COUCLELIS, CHURCH, GOLLEDGE, MONTELLO, PROCTOR

Required of all majors. Lecture, 3 hours; discussion, 1 hour.

Survey of distribution, evaluation, and use of the earth's resources. Specific emphasis on the population composition, urbanization, and inequalities in economic well-being within the framework of geographical change, environmental modification, and planning. (F,W,S)

7. Spatial Data Collection and Processing

(4) STAFF

Lecture, 3 hours; discussion, 1 hour.

A survey of techniques of spatial data processing including: (1) data collection (remote sensing, census techniques), (2) data representation (classical and computer cartography), (3) data storage (geographic databases), and (4) data analysis (spatial statistics and models).

9. Water and The West

(4) LOAICIGA, CHURCH

Lecture, 3 hours; discussion, 1 hour.

Conquest, colonization, growth, and decline in the West in light of the use of water. Past, present, and future of water use in the arid West, with emphasis on water development, environmental impact, economic sustainability, institutional reform, and politics.

10. Geography of World's Natural Resources

(4) LOAICIGA

Lecture, 3 hours.

Survey of soil, water, forest, wildlife, marine, and mineral resources; management in the United States and the world at large.

12. Maps and Charts

(4) TOBLER

Lecture, 3 hours; laboratory, 3 hours.

Map and chart reading and use. Scales, introduction to grid systems, projections. Local, national, and international sources. Draftsmanship not required. Some field work.

UPPER DIVISION

102. Introduction to Environmental Optics in Physical Geography

(S) GAUTIER, DOZIER

Prerequisites: Geography 3 and 115A, plus high school trigonometry. Lecture, 3 hours; discussion, 2 hours.

Basic physical principles of electromagnetic radiation in the environment and their application to physical geography and remote sensing. Radiative transfer in atmosphere, oceans, snow and ice, inland waters, rock, soil, and vegetation. Spectral signatures in remote sensing. (W; offered even-numbered years)

103. Computational Concepts in Geography

(2) STAFF

Tutorial, 2 hours.

Self-paced introduction to geography computing facilities. Emphasis on basic software tools and packages applied to problems in physical and socio-economic geography. (F)

104. Physical Geography of the World's Oceans

(4) WASHBURN, SIEGEL, R. SMITH

Prerequisite: Geography 3 or consent of instructor. Lecture, 3 hours; Discussion, 1 hour.

A descriptive introduction to the processes which control the circulation and biogeography of the world's oceans. Topics to be discussed include: physical and optical properties of the seawater, distribution of water masses, general circulation, primary production, and the ocean's role in global climate. (F)

105. Introduction to Spatial Decision Making and Behavior

(4) GOLLEDGE

Prerequisite: Geography 5 or consent of instructor. Lecture, 3 hours, Laboratory, 2 hours.

Introductory course for the spatial decision making and behavior field. It includes environmental cognition; consumer spatial behavior; mobility and migration; space-time budgeting; travel behavior and mode choice; risk assessment; hazard perception; spatial preference; and locational decision making. (W)

108. Urban Geography

(4) STAFF

Lecture, 3 hours.

Introduction to the study of the economic geography of cities and regions and its relation to planning: urbanization, internal structure of cities, settlement systems, regional growth and development, migration, transportation, housing. (F)

110. Introduction to Meteorology

(4) MICHAELSEN

Prerequisite: Geography 3, or consent of instructor. Lecture, 3 hours; discussion 1 hour.

An introduction to the dynamics of the earth's atmosphere. Considered will be: energy exchange mechanisms, energy balance, condensation and precipitation processes, the dynamics of pressure and wind systems, and the distributions of weather disturbances. (W)

111. Environmental Processes in Oceans and Lakes

(4) R. SMITH

Prerequistes: Biology 4A-B-C or equivalent, or consent of instructor. Lecture, 3 hours; discussion 1 hour.

A discussion of biological, chemical, physical, and optical processes in marine and freshwater environments and linkage between these processes. Emphasis on primary production, global biogeochemical cycles, nutrient dynamics, and synoptic mapping of biological and physical patterns.

112. Environmental Hydrology

(4) LOAICIGA

Prerequisite: Geography 3 or consent of instructor. Lecture, 3 hours; laboratory, 1 hour.

Nature of water cycle with emphasis on relationships among climatic, physiographic, surface water, and ground water phenomena. Environmental impact of water development based on physical hydrologic principles. (F)

113. Deserts in Transformation: The Geography of the Arid Lands

(4) STAFF

Prerequisites: Geography 3, 5, or consent of instructor. Lecture, 3 hours.

Human relationships with desert ecosystems. Overview of climate, landforms, water, soils, vegetation, and interactions in uninhabited and human desert cultures. Discussion of climate change, microclimate, grazing and other factors contributing to change in deserts.

114. World Soils: Formation and Management

(4) STAFF

Prerequisite: Geography 3 or Geology 2 or consent of instructor. Introductory botany and geology recommended. Lecture; 3 hours.

Factors of soil formation and soil properties around the world. Soil development, classification, and important characteristics. Relates soil forming factors to soil properties of interest to agriculture, earth science, and engineering. (S; offered in odd-numbered years)

114L. Laboratory in Soil Analysis

(1) STAFF

Prerequisite: Must be taken concurrently with Geography 114. Laboratory, 2 hours.

Basic laboratory and field analysis of soils. Soil profile description, soil mapping, analysis of physical, chemical, biological soil properties. Students will collect, analyze, and report findings using standard methods. (S; offered in odd-numbered years)

115A. Geographic Photo Interpretation

(4) ESTES

Prerequisites: Geography 3 or consent of instructor. Introductory botany and geology recommended. Must be taken concurrently with Geography 115AL. Lecture, 3 hours.

Interpretation of physical and cultural geographic phenomena as recorded by orbital and aerial sensing systems with emphasis on conventional aerial photography. (F)

115AL. Laboratory in Geographic Photo Interpretation

(1) ESTES

Prerequisites: Geography 3 or consent of instructor. Introductory botany and geology recommended. Must be taken concurrently with Geography 115A. Laboratory, 4 hours.

Laboratory analysis of aerial and space photographs. (F)

115B. Geographic Remote Sensing Techniques

(4) MERTES

Prerequisites: Geography 115A-AL, or equivalent, or consent of instructor. Must be taken concurrently with Geography 115BL. Lecture, 3 hours.

Emphasis is to provide a basic understanding of the acquisition and nature of digital image data and the tools required to process and analyze from multispectral remote sensing systems. Techniques include color display, contrast enhancement, ratios, and supervised classification. (W)

115BL. Laboratory in Geographic Remote Sensing Techniques

(1) MERTES

Prerequisites: Geography 115A-AL, or equivalent, or *consent of instructor. Must be taken concurrently with Geography 115B. Laboratory, 2 hours.*

Laboratory analysis of digital image data from primarily Landsat and SPOT imaging systems. Interactive manipulation and analysis of images on computers using a variety of image processing software packages.(W)

115C. Intermediate Geographic Remote Sensing Techniques

(4) MERTES

Prerequisites: Geography 115B-BL or consent of instructor. Must be taken concurrently with Geography 115CL. Lecture, 3 hours.

Intermediate instruction in the interpretation of environmental phenomena recorded in digital data formats by remote sensing instruments. Emphasis is on learning the more advanced techniques of image restoration, image enhancement, image transformation, and both supervised and unsupervised classification. (S)

115CL. Laboratory in Intermediate Geographic Remote Sensing Techniques

(1) MERTES

Prerequisites: Geography 115B-BL or consent of instructor. Must be taken concurrently with Geography 115C. Laboratory, 4 hours.

Interactive computer manipulation of digital data in laboratory exercises designed to develop skills in advanced techniques of image processing. Both commercial and public-domain software packages employed. (S)

116. Groundwater Hydrology

(4) LOAICIGA

Prerequisite: Geography 3 or consent of instructor, must be taken concurrently with Geography 116L. Lecture, 3 hours.

Analysis of groundwater flow regimes; steady-state and transient systems, geologic controls. Basic aquifer properties and yield. Surface-water/groundwater interaction and fundamentals of groundwater quality. Field trips and experimental laboratory demonstrations. (W)

116L. Lab for Groundwater Hydrology

(1) LOAICIGA

Prerequisite: Geography 3, or consent of instructor, must be taken concurrently with geography 116. Laboratory, 2 hours.

Basic groundwater flow experiments: Hele-shaw flow simulations, hydraulic conductivity measurement, groundwater quality determination (PH, DO, EC) and field trip for base flow measurement. (W)

117A. Geographic Field Techniques

(4) STAFF

Prerequisite: Geography 3 or 5 or consent of instructor. Priority enrollment will be given first to senior, then junior, geography majors. Not open for credit to students who have completed Geog 117.Lecture, 1 hour; laboratory, 6 hours.

Introduction of the basic methods of geographic survey and analysis.

117B. Design of Experiments in Human Geography

(4) MONTELLO

Prerequisite: Geography 5 or equivalent or consent of instructor.

Examines experimental design and methods for field and laboratory problem solving for human geographers. Topics include scientific method; survey research; sampling factional design; interviewer and question bias; design, survey, and sampling errors; types of data; model test and selections.

118A. Introduction to Cartography

(4) LANTER

Prerequisite: Geography 3 or 5 or consent of instructor. Lecture, 2 hours; laboratory, 4 hours.

An introduction to theory and a broad exposure to applications in the field. General focus on concepts, and on data manipulation for mapping. Topics include elements of generalization, symbolization, statistical and thematic mapping techniques. (W)

118B. Production Cartography

(4) LANTER

Prerequisite: Geography 118A and 176A or consent of instructor. Lecture, 2 hours; laboratory, 4 hours.

Introduction to cartographic requirements analysis, map design, digital cartographic technology, geographic data compilation, color theory, typography, and digital cartographic research. Lab work will provide students with hands-on experience with desktop graphics design work stations and advanced cartographic output devices. (S)

119. Climatic Change and Its Consequences

(4) MICHAELSEN

Prerequisite: Geography 3 or consent of instructor. Lecture, 3 hours.

Theories and dynamics of climatic change. Emphasis on the problems of human utilization of different climatic zones under various degrees of uncertainty. (F; offered in odd-numbered years)

120. Landsurface Transport Phenomena in Physical Geography

(4) T. SMITH

Prerequisite: Geography 3 or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Course will examine natural, physical transport phenomena that occur at land surfaces, including water and sediment transport, chemical transport, mass movement, and aeolian transport. Attention will be given to the relations between land forms and associated phenomena.

121. An Introduction to Real Estate and Housing Markets

(4) STAFF

Prerequisites: Either Economics 100 A-B or 104 A-B; or Geography 5 and 108; or consent of instructor. Same course as Economics 121. Lecture, 3 hours, Discussion, 1 hour.

An introduction to the economic, spatial, and policy aspects of housing markets. An overview of the determinants and geographic aspects of housing demand, supply, prices, and rents. Principles of real estate finance and project evaluation. Housing market regulation, planning, zoning, and growth controls.

122A. Alpine Snow Science I

(3) DOZIER

Prerequisites:Geography 3 plus intermediate skiing ability and consent of instructor. Geography 110 and Geography 112 are recommended.

Intensive field, laboratory, and classroom study of the nature of snow, accumulation and ablation, metamorphism, surface energy exchange, runoff, avalanche hazards, electromagnetic properties, and remote sensing. Field session is normally offered during Spring break. (S)

122B. Alpine Snow Science II

(3) DOZIER

Prerequisite: Geography 122A.

Analysis of the alpine snow pack through field measurements, remote sensing, and computer models. Field session is normally offered during Spring break. (S)

124. Natural Resource Conservation, Modeling, and Management.

(4) PROCTOR

Prerequisite: Geography 3 or consent of instructor.

Survey of principal theoretical and applied issues surrounding natural resource utilization, stressing major debates over resource conservation and development, theory and methods of resource modeling, and principles of resource management. Contemporary case studies will be cited. (W)

126. History of Cartography

(4) TOBLER

Lecture, 3 hours.

Prehistoric maps, protolani, and medieval maps; the growth of geodesy, printing, and technology; exploration of the earth and near planets; topographic surveys and photogrammetry; LANDSAT; relation of contemporary thematic cartography to statistics and graphic science. (F)

127. Cartographic Transformations

(4) TOBLER

Prerequisite: Mathematics 11A, or 34B, or 5B, or consent of instructor. Lecture, 3 hours.

Classical map projections; cartograms; empirical "rubber sheeting"; bi-dimensional regression. The geometry of geography; geodesics; geographical circles; the distortion tensor; nonsymmetric distances.

129. Special Topics in Cartography

(4) TOBLER, LANTER

Prerequisites: Geography 118A or consent of instructor. May be repeated once for credit. Lecture, 3 hours.

Examination of selected topics in cartographic research; topic may vary from year to year, to represent current research interests of faculty.

130. Forest Watershed Management

(4) STAFF

Prerequisite: Geography 3 or consent of instructor. Lecture, 3 hours.

Relates forest management activities to hydrologic processes, water quality, flooding, water supply, and soil erosion and mass movements. Emphasizes decision making in context of multiple objectives, including wood production, watershed protection, and conservation in moist temperate, dry and moist tropical forests around the world.

133. Tropical Meteorology

(4) GAUTIER

Lecture, 3 hours.

Description of tropical atmosphere. High and low frequency variability: hurricanes, monsoon, El Niño, satellite observations, and modeling.

134. Earth System Science

(4) GAUTIER, R. SMITH

Prerequisite: Geography 1 or 3 and two upper-division physical geography courses or consent of instructor. Lecture, 3 hours; Lab, 2 hours.

Description of various components of earth system: climate and hydrologic systems, biogeochemical dynamics, ecological dynamics. Human interactions and global change. Observations and modeling of earth system. (S)

136. Remote Sensing of the Oceans

(4) R. SMITH, WASHBURN

Prerequisite: Geography 104 or consent of instructor. Lecture, 3 hours discussion 1 hour..

Survey of physical and biological oceanography from remote sensing perspective. Discussion of sensor systems, platforms, and methodologies both in current use and planned. Topics include: space-time variability of ocean properties, primary productivity, ocean waves, and circulation.

138. Remote Sensing of the Atmosphere: An Introduction

(4) GAUTIER

Prerequisites: Geography 3 and 120 or consent of instructor.

Atmospheric physics and dynamics from a remote sensing perspective. Clouds, precipitation, temperature and humidity profiles. Weather patterns and systems.

144. Forms, Process, and Human Use of Rivers

(4) LOAICIGA, MERTES

Prerequisites: Mathematics 3A-B-C or 34A-B; Geology 117; Geography 112 and 113; or consent of instructor. Same course as Environmentla Studies 144.

Basic understanding of fluvial (river) hydrology. Indepth evaluation of channel form and fluvial processes and impact of human use on rivers.

145. Migration

(4) TOBLER

Prerequisite: Geography 5 recommended. Lecture, 3 hours.

Study of the movement of people at local, national, and international scales. Relation of these to other events. Theories and models of migration, commuting, and spatial interaction.

146. Introduction to Transportation Systems Analysis

(4) CHURCH

Prerequisite: Economics 1 or consent of instructor. Lecture, 3 hours.

Introduction to the analysis of inter- and intra-city passenger and freight movements. Geographic and economic concepts are used to develop predictive and optimal design/maintenance models for the transportation system. Applications of the models are stressed. (W; offered in even-numbered years)

148. California
(4) STAFF
Lecture, 3 hours.

The unique landscapes of California and the physical, cultural, and biotic processes which have produced them. (F)

150. Geography of the United States
(4) ESTES
Lecture, 3 hours.

Intensive study of the physical and cultural processes that have shaped and are shaping the landscapes of the United States. (W)

153A. Behavioral Geography
(4) GOLLEDGE
Prerequisite: Geography 5, 105, or consent of instructor. Lecture, 3 hours; Lab 2 hours.

This course examines aspects of the human-environment interface, emphasizing behavioral processes in spatial contexts including spatial choice and decision making, consumer behavior, migration and other episodic movements, time budgets, spatial cognition, cognitive mapping.

153B. Uncertainty and Spatial Decision
(4) COUCLELIS
Prerequisite: Geography 5, 105, or consent of instructor. Students will not get credit for Geography 153B if they have taken Geography 183. Lecture, 3 hours.

This course concentrates on spatial decision making in the face of uncertainty, with references to consumer behavior, migration decisions, and geographical location decisions. Particular emphasis will be placed on information processing and more generally, cognitive approaches to decision making.

153C. Environmental Perception and Cognition
(4) COUCLELIS, GOLLEDGE, MONTELLO
Prerequisite: Geography 5, 105, or consent of instructor. Lecture, 3 hours; lab 2 hours.

Theories and methods of cognitive geography as applied to cognitive mapping, spatial learning and knowledge structures, human way finding. The spatial skills of special populations, the relations between spatial cognition and language, and other issues in behavioral geography.

153D. Spatial Decisions in Retailing
(4) GOODCHILD
Prerequisite: Geography 5, 105, or consent of instructor. Lecture, 3 hours.

Applications of spatial decision making and behavior to retail systems: site selection, site evaluation, trade area estimation, spatial dimensions of retailing.

154. Geography of Australia and New Zealand
(4) GOLLEDGE
Lecture, 3 hours.

Characteristics and problems of Australia and New Zealand. Discussions of physical, economic, cultural, and regional problems and potentials.

155. Geography of the Soviet Union
(4) ESTES
Lecture, 3 hours.

A systematic approach to the study of the physical and cultural phenomena which characterize the Soviet Union.

156. Great Cities of The World
(4) COUCLELIS
Prerequisite: Geography 5 or 108 or consent of instructor. Lecture, 3 hours; Discussion, 1 hour.

Analysis of significant urban development processes and outcomes around the world. Presentation of major cities representative of different geographic regions, cultures, and historical circumstances, and examination of their role in the context of a "Global Society".

157. Jungles, Deserts, and Famine: The Geography of Africa
(4) PROCTOR
Prerequisite: upper-division standing, or consent of instructor. Lecture, 3 hours.

Overview of climate, geology, soils, vegetation, human culture, and management in tropical rainforests, grasslands, and deserts. Physical and cultural processes leading to famines, expanding deserts, deforestation, war, migration, and other contemporary African problems.

158. Geography of the California Current
(4) SIEGEL
Prerequisites: Geography 3 and Geography 104 recommended. Lecture, 3 hours.

Introduction to the marine resources off the California coast. The interplay of oceanographic, climatic, biogeochemical and geologic factors and the influences of man will be addressed. Topics will include: climate, circulation, biogeography, fisheries, marine mammals, petroleum, pollution and exploration history.

159. Geography of Europe
(4) COUCLELIS
Lecture, 3 hours.

A systematic approach to the study of the human and physical resources of Europe. Special emphasis placed on the spatial aspects of urban, economic, and social processes.

162. Water Pollution
(4) LOAICIGA
Prerequisite: must be taken concurrently with Geography 162L. Lecture, 3 hours.

Human contamination of aquatic environments with emphasis on surface waters, groundwaters, and oceans. Water quality characteristics, modeling and modification. Legislative framework and methods of pollution control. (S)

162L. Laboratory in Water Pollution
(1) LOAICIGA
Prerequisite: must be taken concurrently with Geography 162. Laboratory, 2 hours.

Field trips to water treatment plants, labs on water sampling and analysis; PH, DO, BOD, hardness, EC tests. (S)

163A. Ocean Circulation
(4) WASHBURN, SIEGEL
Prerequisite: Geography 104 or consent of instructor. Lecture, 3 hours.

Examination of the dynamical processes controlling the general circulation of the ocean. The equations of motion are derived for a rotating planet and are applied to explain wind-driven circulation patterns, currents, and therohaline circulation. (W; offered in even numbered years.)

163B. Waves, Tides and Mixing in the Ocean
(4) SIEGEL, WASHBURN
Prerequisite: Geography 163A or consent of instructor. Lecture, 3 hours.

Examination of waves, tides and turbulent processes in the ocean. Topics include surface waves, tidal flows, internal waves, small scale mixing processes, near-surface mixed layers, and bottom boundary layers. Instrumentation and sampling techniques will also be discussed. (S; offered in even numbered years)

164. Navigation
(4) R.SMITH
Lecture, 3 hours; laboratory, 2 hours.

Principles and practice of marineand land navigation. Primary emphasis on marine and celestial navigation, piloting and use of satellite global postioning systems (GPS). Secondary emphasis on radio navigation and selected problems peculiar to land and marine navigation, and other techniques. (S; offered in even numbered years)

166. Jet Stream Climatology
(4) MICHAELSEN
Prerequisite: Geography 110. Lecture, 3 hours.

Study of forces causing variability in the large-scale atmosphere circulation. Relationships between surface climate and upper atmospheric circulation. Theories on causes of climatic anomalies (droughts, cold spells, etc.). Techniques of predicting climatic variability. (S; offered in odd-numbered years)

167. Biogeography: The Study of Plant and Animal Distributions
(4) DAVIS
Prerequisite: Geography 3 or a 4 unit course in biological sciences. Lecture, 3 hours; discussion, 1 hour.

Basic processes governing geographic distribution patterns of biota, including migration, evolution, isolation, and endemism. Biogeographic regions and their histories. Emphasis on plants and plant geography. (W; offered in odd-numbered years)

168. Surface Climate and Water Relations of Soils and Vegetation
(4) DAVIS
Prerequisites: Geography 102, 110, 112, or 114.

Analysis of the sources, sinks, and cycling of water, nutrients and water vapor between soils, vegetation, and the lower atmosphere. Prediction of regional vegetation productivity and characteristics on the basis of climate, nutrient and water availability.

169. Dynamic Meteorology
(4) MICHAELSEN
Prerequisites: Mathematics 3C or equivalent, Geography 110 or a course in fluid mechanics. Lecture, 3 hours; laboratory, 1 hour.

Application of basic equations of fluid motion to flows on a rotating sphere. Emphasis will be placed on scaling techniques appropriate for describing and predicting large-scale atmospheric motion. Additional topics include numerical models, atmospheric waves, instability, and the mechanics of the general circulation. (F; offered in even-numbered years)

170. Introduction to Vegetation Analysis
(4) DAVIS
Prerequisites: Geography 3 and Geography 167; or consent of instructor. Lecture, 3 hours.

Theory and application of natural vegetation classification, ordination, mapping, and inventorying. Includes application of remote sensing, field sampling techniques, and data analysis. (S; offered in odd-numbered years)

170L. Laboratory in Vegetation Data Analysis
(1) DAVIS
Prerequisite: must be taken concurrently with Geography 170. Laboratory, 1 hour.

Calculation and computation methods as appropriate to Geography 170. Implementation of computer programs of vegetation analysis. (S; offered in odd-numbered years)

172A. Introduction to Geographical Data Analysis
(3) MONTELLO
Prerequisites: PSTAT 5A or equivalent. Must be taken concurrently with Geography 172AL. Lecture, 3 hours.

Introduction to the analysis of spatial data. Simple measures of spatial association, bivariate correlation, and regression applied to spatial data. (W)

172AL. Laboratory in Introductory Geographical Data Analysis
(2) MONTELLO
Prerequisites: PSTAT 5A or equivalent. Must be taken concurrently with Geography 172A. Lab, 3 hours.

Introduction to computational methods for spatial data. Use of existing statistical software packages to analyze spatial data. (W)

172B. Advanced Geographical Data Analysis
(3) MICHAELSEN, MONTELLO
Prerequisites: Geography 172A and 172AL, or consent of instructor. Must be taken concurrently with Geography 172BL. Lecture, 3 hours.

Application of multivariate statistical methods to spatial data. Methods for analyzing spatial dependencies. (S)

172BL. Laboratory in Advanced Geographical Data Analysis
(2) MICHAELSEN, MONTELLO
Prerequisites: Geography 172A and 172AL, or consent of instructor. Must be taken concurrently with Geography 172B. Lab, 3 hours.

Computational techniques for analyzing multivariate spatial data. Methods for modifying existing statistical and mathematical software packages to develop spatial analysis routines. (S)

176A. Introduction to Geographic Information Systems
(4) GOODCHILD

Students will not receive credit for Geography 176A if they have received credit for Geography 176. Lecture, 2 hours; Laboratory, 2 hours.

Introduction to modern spatial data processing, development, implementation, and functions of geographic information systems; relations between GIS and remote sensing; and applications of geographic information systems to a variety of environmental issues. (F)

176B. Technical Issues in Geographic Information Systems

(4) GOODCHILD, LANTER, T. SMITH

Prerequisite: Geography 176A or consent of instructor. Lecture, 3 hours; Laboratory, 1 hour.

Study of the technical issues underlying geographic information systems, including coordinate systems and analytic geometry, database models and structures, algorithms and analytical procedures. (W)

176C. Application Issues in GIS

(4) GOODCHILD

Prerequisite: Geography 176A or consent of instructor. Lecture, 3 hours; Laboratory, 1 hour.

Issues arising in the application of GIS technology in land and resource management, utilities and municipal government: GIS acquisition, management, staffing and application. (S)

181. Spatial Database Modelling for Geographic Phenomena

(4) T. SMITH

Prerequisite: Geography 176A or consent of instructor. Lecture, 3 hours; Discussion, 1 hour.

Course will examine the application of spatial database techniques for modelling geographic phenomena. Fundamental conceptual models (relational, object oriented, and logical) and physical models will be discussed as well as special techniques for accessing spatial and temporal data.

184A. Introduction to Cartographic Programming

(4) LANTER

Prerequisite: Computer Science 12 or consent of instructor. Not open for credit to students who have completed Computer Science 118C. Lecture, 2 hours; laboratory, 4 hours.

Introduces the student to cartographic programming principles. Instruction will emphasize structured decomposition, device independence and reusability in cartographic software. Lab work will provide students with hands-on experience with implementing a reusable cartographic library.

184B. Advanced Cartographic Programming

(4) LANTER

Prerequisite: Geography 184A or consent of instructor. Lecture, 2 hours; laboratory, 4 hours.

Implementing cartographic systems that make use of graphical user interfaces, iconic and pictorial programming languages, and object-oriented cartographic techniques. Students will be expected to implement cartographic systems that integrate advance geographic algorithms with cartographic user interfaces.

185A. Geography Planning and Policy Making

(4) COUCLELIS

Prerequisite: Geography 5, 108, Environmental Studies 116, or consent of instructor. Not open for credit to students who have completed Geography 185. Lecture, 3 hours.

Relevance of geographic knowledge and skills to aspects of planning and policy making. Includes review of core concepts in decision making, planning theory, systems analysis, information systems, urban and regional modeling, forecasting, impact analysis, implementation of decisions, planning politics.

185B. Location and Environmental Issues in Planning

(4) CHURCH

Prerequisite: Geography 3, 5, 108, or consent of instructor. Students will not get credit for Geography 185B if they have taken Geography 109. Lecture, 3 hours; laboratory, 1 hour.

Location/allocation and environmental issues in planning by governments and the private sector. Conflicts over location. Location/allocation models, and environmental issues in locating pipelines, powerlines, highways, dams, retail outlets, and similar ventures. (S)

185C. Urban and Regional Modeling and Planning

(4) ANSELIN

Prerequisite: Geography 5, 108, or consent of instructor. Not open for credit to students who have completed Geography 107. Lecture, 3 hours; laboratory, 1 hour.

The use of models of cities and regions in planning and policy analysis. Models for social and economic impact analysis: population projection, economic base, input-output modeling and regional econometric models. (F; offered odd-numbered years)

185D. Urban and Environmental Systems Analysis

(4) CHURCH

Prerequisite: Geography 3, 5, 108, or consent of instructor. Students will not get credit for Geography 185D if they have taken Geography 192. Lecture, 3 hours.

Applications of operations research techniques and decision analysis in structuring approaches to urban and environmental problems. Examples are drawn from problems in facility location, regional models, transportation and other networks, utility corridors and similar problems.

190. Location Theory in Geography

(4) CHURCH, ANSELIN

Prerequisite: Geography 101 or Economics 1 or 109, or consent of instructor. Lecture, 3 hours.

An in-depth analysis of the processes underlying the spatial distribution of human economic activity through the use of models. Attention to agricultural, industrial, and settlement patterns. (S; offered even numbered years)

191. Introduction to Optimization Models for Geographic Problems

(4) CHURCH

Prerequisite: Mathematics 11A or consent of instructor. Lecture, 3 hours.

Survey of optimization techniques with applications to geographical problems. Methods include linear programming, dynamic programming, integer programming, networks, and queuing. (W; offered even numbered years)

191L. Laboratory in Optimization Methods for Geographic Problems

(1) CHURCH

Prerequisite: Geography 191 or concurrent enrollment. Laboratory, 1 hour.

Computer laboratory utilizing special optimization programs and computer graphics devices. (W; offered even numbered years)

193. Internship in Geography

(1-4) STAFF

Prerequisites: upper-division standing, 3.0 overall grade-point average, upper-division standing in geography major, and approval by instructor and department. May be repeated for credit to a maximum of 12 units but only 4 units may count toward the major. Field, 3-12 hours.

Practical experience and research on geographical problems under faculty direction as interns with local, state, and federal agencies, with private research and development firms, and with other business organizations. Periodic and final reports required. (F,W,S)

195. Selected Problems in Geography

(2-4) STAFF

Prerequisite: upper-division standing in geography. May be repeated once for credit. Lecture, 2-4 hours.

Investigation of selected geographic factors of major significance to human environmental interactions. Scope and emphasis variable each time offered.

198. Readings in Geography

(1-2) STAFF

Prerequisites: consent of instructor and department chair. Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in geography. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. The proposal for the study must be submitted to, and approved by, the department chair. Forms may be obtained in the department office. Maximum of 4 units may be accumulated. Tutorial, 1-2 hours.

Designed to provide in-depth directed inquiry into a topic of interest to the student. (F,W,S)

199. Independent Studies

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in geography. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. The proposal for the study must be submitted to, and approved by, the department chair. Forms may be obtained in the department office. Tutorial, 1-5 hours.

Selected research under the direction of a faculty member. (F,W,S)

199RA. Independent Research Assistance in Geography

(1-5) STAFF

Prerequisites: Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in Geography; 4) have consent of instructor and department. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses.

Selected research under the direction of a faculty member.

GRADUATE COURSES

Please note: the letters in parentheses at the end of graduate course descriptions correspond to the following key: (S)-Systematics; (T)-Techniques.

200A. Introduction to Geographic Research

(4) STAFF

Prerequisites: Required of all geography graduate students. Normally taken in fall quarter of entering academic year. Lecture, 3 hours.

Presentation and discussion by department faculty of research areas in the department. Systematic and technique areas of emphasis will be presented, as well as department facilities and research collaborations with other institutions. (ST)

200B. Introduction to Geographic Research

(4) STAFF

Prerequisites: Geography 200A or approval of Graduate Committee. Required of all geography graduate students. Normally taken in winter quarter of entering academic year. Seminar, 3 hours.

Fundamental issues of research in geography and related areas: the geographic perspective, scientific reading/writing and problem formulation, research techniques, the scientific enterprise, and science and society. (ST)

200C. Introduction to Geographic Research

(2) STAFF

Prerequisites: Geography 200A or approval of Graduate Committee, and Geography 200B. Required of all geography graduate students. Normally taken in spring quarter of entering academic year. Seminar, 2 hours; Tutorial, 1 hour.

Directed readings and research leading to a draft thesis proposal (MA students) or a systematic literature review in perspective dissertation area (Ph D students); participation in seminars discussing ongoing graduate research. (ST)

201. Seminar in Geography

(2) STAFF

Prerequisite: required of all geography graduate students every quarter offered.

A series of lectures and seminars on diverse research topics in human and physical geography, by visiting speakers or department faculty. Seminar, 3 hours.

202A. Remote Sensing and Environmental Optics

(4) GAUTIER, OOZIER, R. SMITH

Prerequisites: Geography 115A and 102. Lecture, 3 hours.

Principles of radiation emission; radiative transfer equation and some solution methods; surface interactions; instrumentation; applications to remote sensing and energy budgets in atmosphere, ocean, and other media.

202B. Seminar in Environmental Optics

(4) GAUTIER, DOZIER, R. SMITH

Prerequisite: Geography 202A. Seminar, 3 hours.

Seminar on electromagnetic radiation in the environment and applications to physical geography and remote sensing. Computational methods.

203. Seminar in Physical Geography

(4) OOZIER

Prerequisites: an upper-division course in physical geography and consent of instructor. Seminar, 3 hours.

Survey of current literature and concepts in physical geography. (S)

205. Seminar in Environmental Philosophy

(4) PROCTOR

Intensive reading and discussion on the philosophy of human-environment relations and its application to environmental analysis, planning, and policy.

208. Water Resource Systems Planning and Management

(4) CHURCH, LOAICIGA

Lecture, 3 hours.

Introduction to techniques used in planning and management of water quantity and quality problems. Topics include river basin management of water quality, reservoir system operation for multipurpose use, and dealing with drought conditions. (S)

210. Analytical Methods for Geographers

(4) LOAICIGA, SIEGEL

Prerequisite: consent of instructor. Lecture, 3 hours.

Introduction of analytical methods used to solve geographic problems. Topics include: calculus, linear algebra, vector analysis, differential equations, Fourier transforms, least-squares estimation and differential geometry. (S)

213. Digital Techniques in Remote Sensing

(4) MERTES

Prerequisites: Geography 115B, 115BL and 172, 172L. Must be taken concurrently with Geography 213L. Seminar, 3 hours.

Intermediate instruction in the intrepretation of environmental phenoma recorded in digital data formats by remote sensing instruments. Emphasis is on learning the more advanced techniques of image restoration, image enhancement, image transformation, and both supervised and unsupervised classification.(T)

213L. Laboratory in Digital Techniques in Remote Sensing

(1) MERTES

Prerequisites: Geography 115B, 115BL and 172, 172L. Must be taken concurrently with Geography 213. Laboratory, 4 hours.

Interactive computer manipulation of digital data in laboratory exercises designed to develop skills in advanced techniques of image processing. Both commercial and public-domain software packages employed. Term project applying digital image processing skills to scientific problem. (T)

215. Seminar in Remote Sensing

(2-4) ESTES

Prerequisite: Geography 115B or consent of instructor. May be repeated more than once with changes in content, and methods examined. Seminar, 2-3 hours.

Advanced concepts in multispectral, multidate, manual, and automated remote sensing techniques. (ST)

216S. Remote Sensing Software

(4) DOZIER

Prerequisite: Geography 103. Lecture, 3 hours.

Analysis and development of software systems for remote sensing data. (T)

218. Seminar in Soils and Forest Watershed Management

(4) STAFF

Prerequisite: consent of instructor. Some botany and geology recommended. Seminar, 3 hours.

Advanced concepts in soil survey, mapping, and management; land evaluation; deforestation, desertification, and environmental change; and forest watershed management. (S)

219. Field Seminar in Geography

(1-4) STAFF

Prerequisites: graduate standing and consent of instructor. Course may be repeated for up to a maximum of 8 units. Field, 3 hours.

Field trips of one day or more, organized as opportune. Appropriate report required for each trip. Units commensurate with time and effort spent participating in field excursions and subsequent report preparation. (T)

220. Seminar in Regional Analysis

(4) ANSELIN, TOBLER, COUCLELIS

Prerequisites: Geography 172 and 172L, or consent of instructor. Seminar, 4 hours.

Study of current research in regional analysis. The topic will differ each year and will be announced in advance. (S)

222. Spatial Decision Making

(4) T. SMITH

Prerequisites: Geography 105, or consent of instructor. Seminar, 3 hours.

Study of current theories and empirical evidence concerning decision making in a spatial context by individuals, firms, and government agencies. (S)

224. Methods of Regional Analysis

(3) ANSELIN

Prerequisites: Geography 108, 185B, or consent of instructor. Must be taken concurrently with Geography 224L. Seminar, 3 hours.

Advanced seminar in the construction and use of regional and multiregional input-output and econometric models: nonsurvey and hybrid regionalization techniques, accuracy assessment, extended I/O models and Social Accounting Matrices (SAM), regional forecasting model, integrated modeling approaches. (S)

224L. Laboratory in Methods of Regional Analysis

(1) ANSELIN

Prerequisites: Geography 108 and 185B, or consent of instructor. Must be taken concurrently with Geography 224. Laboratory, 3 hours.

Application of regional and multiregional input-output and econometric modeling techniques to policy issues in California. Manipulation and construction of empirical models by means of specialized microcomputer software. (S)

225. Urban Problems

(4) ANSELIN, GOLLEOGE, COUCLELIS

Prerequisites: Geography 105, 108, or consent of instructor. Lecture, 1 hour; seminar, 2 hours.

Detailed studies of selected social, economic, and physical problems related to modern cities. (S)

227. Scientific Reasoning in Geography

(4) COUCLELIS, GOLLEOGE

Prerequisites: graduate standing; consent of instructor. Seminar, 3 hours.

Discussion of the application of reasoning principles from various philosophies of science and social science to relevant problems in geography. (T)

229. Environmental Perception and Cognition

(4) GOLLEOGE, COUCLELIS, MONTELLO

Prerequisites: graduate standing; consent of instructor. Recitation, 2 hours; seminar, 1 hour.

Theories and methods related to acquiring, representing, and analyzing knowledge of complex large-scale environments. (ST)

230. Behavioral Geography

(4) GOLLEOGE, COUCLELIS

Prerequisites: Geography 105, 108, or consent of instructor. Seminar, 3 hours.

Survey of behavioral approaches in a variety of areas of geography. (S)

232. Cartographic Transformations

(4) TOBLER

Prerequisite: Mathematics 11A or 34B or 5B; or consent of instructor. Seminar, 3 hours.

Classical map projections; cartograms; empirical "rubber sheeting"; bi-dimensional regression. The geometry of geography; geodesics; geographical circles; the distortion tensor; nonsymmetric distances. (ST)

233. Tropical Meteorology

(4) GAUTIER

Lecture, 3 hours; Discussion, 1 hour.

Description of tropical atmosphere. High to low frequency variability: monsoon, hurricanes, El Niño, satellite observations, and modeling. (S)

234. Seminar in Cartography

(4) TOBLER, LANTER

Prerequisite: Geography 118A or 127; or consent of instructor. Seminar, 4 hours.

Study and critique of advanced research work in cartography. Topic will vary from year to year. (T)

235. Earth Radiation Budget and Clouds

(4) GAUTIER

Prerequisite: Geography 102 or 202. Lecture, 3 hours.

Earth radiation balance - greenhouse effect - cloud/radiation interaction. Radiative/convective climate models. ERB measurements from space. (S)

236. Remote Sensing of the Oceans

(4) R. SMITH, WASHBURN

Prerequisite: Geography 104 or consent of instructor. Lecture, 3 hours; Discussion, 1 hour.

Survey of physical and biological oceanography from remote-sensing perspective. Discussion of sensor systems, platforms, and methodologies both in current use and planned. Topics include: space-time variability of ocean properties, primary productivity, ocean waves, and circulation.

237. El Niño: Atmosphere Ocean Interactions

(4) GAUTIER

Prerequisite: Geography 133, or consent of instructor. Lecture, 3 hours.

Low frequency oscillations of atmosphere and ocean in tropical regions. Atmosphere ocean interactions. El Niño observations and modeling. (S)

238. Advanced Remote Sensing of the Atmosphere

(4) GAUTIER

Prerequisites:Geography 138 or 202, or consent of instructor.

Advanced readings in research on theory and models of radiative transfer as bases for the remote sensing of the atmosphere and meteorological forecast.

239. Earth System Science

(4) GAUTIER

Prerequisite: consent of instructor.

Description of various components of earth system: climate and hydrolic systems, biogeochemical dynamics and ecological dynamics. Observations and modeling of earth systems.

240. Advanced Hydrologic Modeling

(4) LOAICIGA

Prerequisites: Geography 3, 112, or consent of instructor. Lecture, 3 hours; laboratory, 1 hour.

Black-box and conceptual hydrologic models. Distributed-parameter versus lumped-parameter hydrologic systems. Rainfall-runoff processes and regional hydrological analysis. Application of computer-based hydrologic simulation. (S)

242A. Advanced Snow Hydrology

(4) OOZIER

Prerequisites: Geography 102 or 112 and 172 and 172L. Geography 110, 115B and 115BL, and 213 are recommended. Seminar, 3 hours; one two-day field trip.

Nature of snow, snow metamorphism, snow surface energy exchange, snowmelt runoff, and avalanche hazards. Analysis through field measurements, remote sensing, and computer simulation. (S)

242B. Field Seminar in Snow Science

(4) DOZIER

Prerequisites: Geography 242A. Seminar, 2 hours; field, 2 hours; one field trip required.

Seminar and field analysis on snow metamorphism, snow chemistry, snowmelt runoff, energy exchange, remote sensing, and electromagnetic properties. (TS)

245. Advanced Groundwater Analysis
(4) LOAICIGA

Lecture, 3 hours; laboratory, 1 hour.

Steady and nonsteady groundwater flow motion in saturated and unsaturated porous media; tensorial analysis of hydraulic conductivity; hydrodynamic dispersion and groundwater pollution; sea water/groundwater interfacing; field and laboratory demonstrations of groundwater processes; computer simulation of groundwater systems. (S)

252. Clouds: Formation and Effects
(4) GAUTIER

Prerequisites: Geography 1 or 3, and 102, or consent of instructor.

What are clouds? How do they form and what is their effects on atmosphereic radiation budget, dynamics, and on air-sea interactions?

253. Global Warming: Causes and Consequences
(4) GAUTIER

Prerequisite: Geography 134 or consent of instructor.

Radiative processes involved in global warming; carbon dioxide increase and uptake; role of clouds;, oceans and biosphere; consequences: sea level changes, hydrological cycle intensification, etc.

256. Molecular Photosynthesis and Light in Aquatic Systems
(3) R. SMITH

Prerequisites: upper-division courses in aquatic biology and/or optics or consent of instructor. Same course as Biology 256. Lecture, 3 hours.

A lecture course in introduce graduate students to the molecular processes of photosynthesis and the bio-optics of underwater light fields. (S)

263A. Ocean Circulation Dynamics
(4) SIEGEL, WASHBURN

Lecture, 3 hours, Discussion, 1 hour.

Examination of the dynamical processes controlling the general circulation of the ocean. The equations of motion are derived for a rotating planet and are applied to explain wind-driven circulation patterns, geostrophic currents, and the ocean's role in global climate. (S)

263B. Ocean Waves, Tides and Mixing Dynamics
(4) SIEGEL, WASHBURN

Prerequisites: Geography 263A or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Examination of waves, tides, and turbulent processes, in the ocean. Topics include surface waves, tidal flows, internal waves, small scale mixing processes, near-surface mixed layers, and bottom boundary layers. Instrumentation and sampling techniques will also be discussed. (S)

264. Seminar in Oceanography
(4) SIEGEL, R. SMITH, WASHBURN

Prerequisites: Geography 163A and 163B, or 263A and 263B, or consent of instructor. Seminar, 3 hours.

Graduate seminar in physical, optical, and biological oceanography. (S)

266. Jet Stream Climatology
(4) MICHAELSEN

Prerequisite: Geography 110; a course in multivariate statistics recommended. Lecture, 3 hours; seminar, 1 hour.

Study of forces causing variability in the large-scale atmospheric circulation. Relationships between surface climate and upper atmospheric circulation. Theories on causes of climatic anomalies (droughts, cold spells, etc.). Techniques of predicting climatic variability. (S)

267. Biogeography: The Study of Plant and Animal Distributions
(4) DAVIS

Prerequisite: Geography 167 or Botany 103A-B or 140 or 146 or Zoology 113A. Seminar, 3 hours.

Theory and methods of biogeographical research. Emphasis on plants and plant geography. Seminar includes presentation of classic papers as well as current research work. Research paper required. (S)

268. Seminar in Climatology
(4) MICHAELSEN, GAUTIER

Prerequisite: consent of instructor. Seminar, 3 hours.

Selected topics in current research on theoretical and empirical modeling of climate change and climate variability. (S)

269. Dynamic Meteorology
(4) MICHAELSEN

Prerequisites: Mathematics 3C or equivalent; Geography 110 or course in fluid mechanics. Lecture, 3 hours; seminar, 1 hour.

Application of basic equations of fluid motion to flows on a rotating sphere. Emphasis will be placed on scaling techniques appropriate for describing and predicting large-scale atmospheric motion. Additional topics include numerical models, atmospheric waves, instability, and the mechanics of the general circulation. (S)

271. Numerical Aspects of Geographic Modeling
(4) SIEGEL

Prerequisites: Geography 172 and 172L, and Mathematics 3C or equivalent. Lecture, 3 hours.

Design and implementations of grid-based numerical models for addressing the dynamics of geographic systems. Finite difference and finite element methods will be discussed. Emphasis will be placed on the development of geographically consistent models. (S)

272. Quantitative Biogeography
(4) DAVIS

Prerequisites: Geography 167, 172 and 172L, and consent of instructor. Lecture, 2 hours; seminar, 2 hours.

Mathematical modeling of patterns of migration, evolution, and extinction. Stochastic processes and Monte Carlo techniques of simulation. (ST)

273. Natural Vegetation Classification, Inventory, and Dynamics
(4) DAVIS

Prerequisites: Geography 167, 172A and 172AL, and 172b and 172BL or consent of instructor. Lecture, 2 hours; seminar, 1 hour.

Problems in analysis of natural vegetation, including sampling and measurment, classification, ordination, gradient analysis and dynamic modeling. (TS)

274A. Introduction to Geographical Data Analysis
(3) ANSELIN

Prerequisites: PSTAT 5A or equivalent. Must be taken concurrently eith Geography 274A.

Introduction to the analysis of spatial data. Simple measures of spatial association, bivariate corelation, and regression applied to data.

274B. Advanced Geographical Data Analysis
(3) MONTELLO

Prerequisites: Geography 274A,274AL or consent of instructor. Must be taken concurrently with Geography 274BL.

Application if multivariate statistical methods to spatial data. Methods for analyzing spatial dependencies.

275. Seminar in Geographical Information Systems
(4) GOODCHILD, T. SMITH, TOBLER, LANTER

Prerequisites: Geography 176A or equivalent or consent of instructor. Seminar, 4 hours.

Study of current trends in geographically oriented information processing systems. (ST)

276A Advanced Spatial Data Analysis
(3) ANSELIN

Prerequisites:Geography 274B and 274BL or consent of instructor. Must be taken concurrently with Geography 276AL

Analysis of spatial data. Spatial autocorrelation, autoregressive and moving average models, regression models applied to spatial problems, point processes.

276AL. Advanced Laboratory in Spatial Data Analysis
(2) ANSELIN

Prerequisites: Geography 274B and 274BL or consent of instructor. Must be taken concurrently with Geography 276A.

Design and implementation of computational techniques for analyzing spatial data.

276B. Geographical Time Series Analysis
(3) WASHBURN

Prerequisites:Geography 172B or consent of instructor. Must be taken concurrently with Geography 276BL.

Introduction to time series analysis in geography. Topics will include spatial and temporal sampling, fast fourier transform techniques, linear systems, and digital filtering.

276BL. Geographical Time Series Analysis
(2) WASHBURN

Prerequisites: Geography 172B, 172BL, or consent of instructor. Must be taken concurrently with Geography 276B.

Introduction to computational methods for time series analysis.

276C. Special Topics in Geographical Data Analysis
(3) STAFF

Prerequisites:Consent of instructor. Must be taken concurrently with Geography 276CL.

Advanced topics in the analysis of spatial and temporal data. Maybe be repeated for credit.

276CL. Special Topics Laboratory
(2) STAFF

Prerequisite: consent of instructor. Must be taken concurrently with Geography 276C.

Laboratory in advanced graphic data analysis. May be repeated for credit.

283. Seminar in Uncertainty and Spatial Decision Processes
(4) COUCLELIS

Seminar, 3 hours.

Advanced readings in this course will concentrate on spatial decision making in the face of uncertainty, with references to consumer behavior, migration decisions, and geographical location decision. Particular emphasis will be placed on information acquisition and mean variance models. (S)

284A. Introduction to Cartographic Programming
(4) LANTER

Prerequisite: Computer Science 12 or consent of instructor. Lecture, 2 hours; laboratory, 4 hours.

An introduction to cartographic data structures, algorithms, and programming principles. Instruction will emphasize structured decomposition device independence and reusability in carthographic software. Lab work will provide students with hands-on experience with implementing a reusable cartographic library. (T)

284B. Advanced Cartographic Programming
(4) LANTER

Prerequisite: Geography 284A or consent of instructor. Lecture, 2 hours; laboratory, 4 hours.

Design and implementation of cartographic systems using graphical user interfaces, iconic and pictorial programming languages, and object-oriented cartographic techniques. Students will be expected to create cartographic applications software by integrating advanced geographic algorithms with cartographic user interfaces. (T)

285. Information Systems for the Study of Global Change
(4) DOZIER

Prerequisites: Geography 172A and 172AL and Geography 176A and 176AL.

Design, implementation, and status of distributed information systems used in global change research.

288. Special Topics in Geography
(4) GOLLEDGE

Prerequisite: consent of instructor.

Special topics in geography will be defined and offered as demand requires, or as faculty develop new interests or wish to examine topics not otherwise covered in existing course offerings.

290. Urban and Environmental Systems Analysis
(4) CHURCH

Prerequisite: Geography 101 or Economics 1 or 109, or consent of instructor. Lecture, 3 hours.

Applications of operations research techniques and decision analysis in structuring approaches to urban and environmental problems. Examples are drawn from problems in facility location, regional models, transportation and other networks, utility corridors, and similar problems. (ST)

291. Optimization Models for Geographic Problems
(4) CHURCH

Prerequisite: Mathematics 11A or 132A or Geography 191 or consent of instructor. Lecture, 3 hours.

Survey of advanced optimization techniques with applications to geographical problems. Methods include advanced topics in linear programming, dynamic programming, integer programming, networks, and queuing. (T)

292. Mathematical Models in Physical Geography
(4) STAFF

Prerequisites: Geography 172 and 172L and any upper-division physical geography course. Seminar, 3 hours.

Mathematical models of water and energy flows through the atmosphere, in stream channels, on and in soils and vegetation. (ST)

293. Mathematical Models in Human Geography
(4) COUCLELIS

Seminar, 3 hours.

Overview of current modeling issues in behavioral geography and urban and regional analysis and planning, an emphasis on work by members of the department faculty and occasionally visitors. (ST)

294. Advanced Topics in Location and Transportation Systems
(4) CHURCH, TOBLER

Prerequisite: Geography 190 or 191 or consent of instructor. May be repeated more than once with changes in content, methods, and applications areas examined. Lecture, 4 hours.

Study of current research and application of systems models in the analysis, design, operation, and scheduling of transport and location problems. (S)

500. Teaching Assistant Training
(4) GOLLEDGE

Repeatable. Seminar, 2 hours; lab, 1 hour; preparation, 1 hour.

Compulsory course for new teaching assistants to examine geographic teaching methods. Emphasis on use of special equipment and facilities in the department, teaching aids, examination preparation and grading, student advising, and special problems.

596. Directed Reading and Research
(2-8) STAFF

Prerequisites: consent of instructor and department chair. No more than half the graduate units necessary for the master's degree may be taken in Geography 596. Seminar, 2-8 hours.

A written proposal for each tutorial must be approved by the department.

597. Individual Study for Ph.D. Examinations
(1-12) STAFF

Prerequisites: consent of instructor and graduate adviser. No unit credit allowed toward advanced degree. S/U grade. Maximum of 12 units per quarter; enrollment limited to 24 units total. Variable hours.

Instructor should be student's major professor or chair of the doctoral committee.

598. Master's Thesis Research and Preparation
(1-12) STAFF

Prerequisites: consent of instructor and graduate adviser. No unit credit allowed toward master's degree. S/U grading. Preparation, 1-6 hours.

Research toward and writing of thesis.

599. Ph.D. Dissertation Research and Preparation
(1-12) STAFF

Prerequisites: consent of instructor and graduate adviser. No unit credit allowed toward Ph.D. degree. S/U grading. Preparation, 1-6 hours.

Research toward and writing of dissertation. Instructor should be chair of student's doctoral committee.

Geological Sciences

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Department Chair: James M. Mattinson

Faculty

Ralph J. Archuleta, Ph.D., Scripps Institution of Oceanography, Professor *(theoretical geophysics, seismology)*

Tanya M. Atwater, Ph.D., Scripps Institution of Oceanography, Professor *(plate tectonics, ocean floor spreading)*

Stanley M. Awramik, Ph.D., Harvard University, Professor *(biogeology, paleobiology)*

James R. Boles, Ph.D., University of Otago, Professor *(sedimentary petrology)*

Cathy J. Busby, Ph.D., Princeton University, Associate Professor *(sedimentology)*

John C. Crowell, Ph.D., UC Los Angeles, Professor Emeritus

Michael De Niro, Ph.D., California Institute of Technology, Professor *(stable isotopes and geobiology)*

Richard V. Fisher, Ph.D., University of Washington, Professor Emeritus

Michael D. Fuller, Ph.D., Cambridge University, Professor *(geomagnetism)*

Phillip B. Gans, Ph.D., Stanford University, Assistant Professor *(structural geology, tectonics, geochronology)*

Christopher J. Harrison, Ph.D., Cambridge University, Lecturer *(gravity and geomagnetism)*

Rachel M. Haymon, Ph.D., Scripps Institution of Oceanography, Associate Professor *(marine hydrothermal geochemistry)*

Clifford A. Hopson, Ph.D., Johns Hopkins University, Professor Emeritus

Edward A. Keller, Ph.D., Purdue University, Professor *(geomorphology, hydrology, environmental geology)*

James P. Kennett, Ph.D., Victoria University of Wellington, New Zealand, Professor *(paleo-oceanography, marine geology)*

David W. Lea, Ph.D., Massachusetts Institute of Technology—Woods Hole Oceanographic Institute, Assistant Professor *(chemical oceanography and paleo-oceanography)*

Bruce P. Luyendyk, Ph.D., Scripps Institution of Oceanography, Professor *(tectonics, geophysics, paleomagnetism)*

Ken C. Macdonald, Ph.D., Massachusetts Institute of Technology, Professor *(marine tectonics, marine seismology and magnetism)*

James M. Mattinson, Ph.D., UC Santa Barbara, Professor *(petrology, isotope geology)*

Robert M. Norris, Ph.D., Scripps Institution of Oceanography, Professor Emeritus

Brian E. Patrick, Ph.D., University of Washington, Assistant Professor *(structural geology, tectonics, petrology)*

William A. Prothero, Ph.D., UC San Diego, Professor *(seismology, seismic instrumentation, educational technology)*

Richard H. Sibson, Ph.D., University of London, Adjunct Associate Professor *(structural geology, tectonics)*

Frank J. Spera, Ph.D., UC Berkeley, Professor *(igneous petrology, magma transport phenomena)*

Arthur G. Sylvester, Ph.D., UC Los Angeles, Professor *(structural geology, petrofabrics, neotectonics)*

Toshiro Tanimoto, Ph.D., UC Berkeley, Associate Professor *(seismology, earth structure)*

Bruce H. Tiffney, Ph.D., Harvard University, Associate Professor *(evolutionary biology, paleobotany)*

George R. Tilton, Ph.D., University of Chicago, Professor Emeritus

George Tunell, Ph.D., Harvard University, Professor Emeritus

Donald W. Weaver, Ph.D., UC Berkeley, Professor Emeritus

William S. Wise, Ph.D., Johns Hopkins University, Professor *(mineralogy, geochemistry)*

Andre R. Wyss, Ph.D., Columbia University, Assistant Professor *(vertebrate paleontology)*

Affiliated Faculty

John A. Endler, Ph.D. (Biological Sciences)

Samuel S. Sweet, Ph.D. (Biological Sciences)

Robert K. Trench, Ph.D. (Biological Sciences)

Geology is the science of the earth—the study of its rocks, minerals, and records of ancient life, and of the physical, chemical, and biological processes, past and present, at work in the earth's interior, on its surface, and within its envelope of water and air. The methods of geology are applicable to the study of the moon and the planets.

The undergraduate program in geology provides the background in elementary geology, basic sciences, and mathematics necessary for graduate work in geology or closely related fields such as geophysics, geochemistry, paleobiology, or oceanography. In addition, the program retains the flexibility to permit preparation for eventual specialization in related fields. In consultation with the undergraduate adviser, students may develop individual programs tailored to their interests and career goals.

There are numerous career opportunities in the geological sciences in educational, governmental, and industrial organizations. After completing specific prerequisites, students with a bachelor's degree in geological sciences are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Prospective students are required to confer with a department adviser before beginning a program in geology. Students may correspond with advisers before they enter the university, and they are expected to attend a meeting with the department chair scheduled during registration week. The Bachelor of Science in Geological Sciences and Geophysics are the primary degrees offered by the department. The department also offers the Bachelor of Arts in Geological Sciences, which requires more General Education and fewer geological science elective courses than the Bachelor of Science.

Undergraduate Program

Bachelor of Science—Geological Sciences

Students who declare the major are responsible for satisfying the major requirements in effect at the time of their declaration.

Preparation for the major. Mathematics 3A-3B-3C, and 5A or Geology 134; Chemistry 1A-1AL-1B-1BL-1C-1CL (or 2 series); Physics 6A-6AL-6B-6BL-6C-6CL and Geology 40 or 100, or Physics 1-2-3-4-5; Geology 2 and 3 or Geology 101; Geology 50 and 51. Highly recommended: Mathematics 5B and 5C, PSTAT 5A, computer programming, and Geology 18 (fall and spring field trips). *Note: Geology 100 may be used to fulfill either the major preparation or upper-division requirements, but not both.*

Every student must be certified for technical writing competence. Certification may be achieved by doing acceptable writing in Geology 104A, by writing acceptable term papers in other geoscience courses, or by completing a technical writing course with a C or better.

Upper-division major. Students must complete the courses marked below with an asterisk with a C or above, or obtain the permission of the department chair. A minimum of 54 upper-division units in geology is required, selected in consultation with the undergraduate adviser. These units must include two courses from 102A*, 102B*, 102C*; one course from 102AL, 102BL, or 102CL; and all of the following: 103*-103L*, 104A*, 104B*, 118*. In addition, students must complete 20 upper-division units in one of the following concentrations. All courses for the concentration must be chosen in consultation with a department adviser. *Note: The chosen concentration will not be specified on the transcript or diploma.*

General geology concentration. Students in this concentration must complete 20 upper-division geology units, at least 12 of which must be chosen from the following list: Geology 100 (unless used in the preparation), 111, 117, 122, 124 or 125A or 125B, 157. *Note: Geology 101, 110, 116SS, 123, and 160 cannot be used to satisfy this requirement.* Up to 8 upper-division units from other departments may be accepted by petition.

Engineering geology/hydrogeology concentration. Students in this concentration must complete Geology 100 (if not used in the preparation), 113, 117, 124, and Geography 116.

Marine geology concentration. Students in this concentration must complete 5 courses from the following: Geology 100 (if not used in the preparation), 105, 111, 124, 157, 163, 166, and Geography 163,. Highly recommended electives: Geology 171, 181, 182.

Geochemistry concentration. Students in this concentration must complete five courses from the following: Chemistry 113A, 113B; Geology 124, 125A, 125B, or 140; and 157 or 100 (if not used in the preparation). Chemistry 113C is highly recommended.

Paleobiology and evolution concentration. Geology 111 and 121, and 12 units in courses to be chosen from the following: Geology 120, 141, 143, 148, 161, 162, 190; Biology 120, 130A-B-C; Zoology 108, 112A-B, 130; Botany 113, 140. Biology 4A-B-C is also required in the preparation.

Bachelor of Arts—Geological Sciences

Students who declare the geological sciences major are responsible for satisfying the major requirements in effect at the time of their declaration.

Preparation for the major. Mathematics 3A-3B-3C; Chemistry 1A-1AL-1B-1BL-1C-1CL (or 2 series); Physics 6A-6AL-6B-6BL-6C-6CL and Geology 40 or 100; Geology 2 and 3 or Geology 101; Geology 50; Geology 51. Highly recommended: Geology 18 (fall and spring field trips); PSTAT 5A; and a course in computer programming. *Note: Geology 100 may be used to fulfill either the major preparation or upper-division requirements, but not both.*

Every student must be certified for technical writing competence. Certification may be achieved by doing acceptable writing in Geology 104A, by writing acceptable term papers in other geoscience courses, or by completing a technical writing course with a grade of C or better.

Upper-division major. Students must complete the courses marked with an asterisk below with a C or above, or obtain the permission of the department chair. A minimum of 46 upper-division units in geology is required, selected in consultation with the undergraduate adviser. These units must include two courses from 102A*, 102B*, 102C*; one course from 102AL, 102BL, or 102CL; and all of the following: 103*-103L*, 104A*, 104B*, 111, 118*; and two upper-division electives in geoscience. Highly recommended: Geology 100 (unless used in the preparation), 117, 122, 124, and 157. Other recommended courses: Geology 104AX, 160, and 134.

Bachelor of Science—Geophysics

Students who declare the geophysics major are responsible for satisfying the major requirements in effect at the time of their declaration.

Preparation for the major. Math 3A-3B-3C and Math 5A-5B-5C; Chemistry 1A-1AL-1B-1BL-1C-1CL (or 2 series); Geology 2 and 3 or Geology 101; Physics 1-2-3-3L-4-4L-5-5L; one course from Computer Science 5AA-ZZ or 10.

Every student must be certified for technical writing competence. Certification may be achieved by doing acceptable writing in Geology 104A, by writing acceptable term papers in other geoscience courses, or by completing a technical writing course with a C or better.

Upper-division major. Students must complete with a grade of C or above the courses marked with an asterisk below. At least 44 upper-division units in geology, physics, and math are required, chosen in consultation with the undergraduate adviser. These units must include Geology 103*-103L, 104A*; Geophysics (Geology 136*); and a choice of Option 1 or Option 2. Option 1 is three courses from Geology 137, 138, 139 and 157. Option 2 is Geology 133 and one course from Geology 137, 138, 139, and 157. Two sequences from the following: Physics 100A-100B, 105A-105B, 110A-110B; Math 104A-B, 122A-B, 124A-B. Additional upper-division geology courses to bring the total to 44 units. *Note: Geology 101, 110, 116SS, and 123 will not apply.*

Recommended electives: Statistics, advanced mathematics, Geology 18, 50, 102A, 102B, 104B, and 160.

Senior Honors Program

Students with outstanding academic records in geological sciences are encouraged to apply for the senior honors program. The honors program centers on an independent research project which must represent a significant advanced undertaking in an area of academic or applied research. It must be approved by the department chair and by a faculty member who serves as the project supervisor. Program requirements include a 3.0 grade-point average in the major and overall, maintenance of the 3.0 grade-point average through the duration of the project, completion of a minimum of 12 units of Geology 196H honors units under the direction of the faculty supervisor, and the preparation and oral defense of a written thesis. Distinction in the Major will be awarded at graduation to those students whose projects are evaluated as ac-ceptable. Applications are available in the under-graduate advising office and are due by November 1. Students whose projects require funding should apply to the President's Undergraduate Research Fund before November 1, or the National Science Foundation in early October.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Admission

In addition to fulfilling the general requirements of the Graduate Division, a candidate for admission must present recent scores on the verbal, quantitative, and analytical parts of the Graduate Record Examination. Deadline for applications is February 10, but applicants are advised to submit well ahead of the deadline. The deadline for fellowship application is January 15. Applicants are informed of acceptance or denial by mid-April. Students normally are not accepted into the graduate program during winter and spring quarters unless approved in early April of the previous year. The department encourages students with bachelor's degrees in sciences other than geology to apply for admission.

Master of Arts—Geological Sciences

Master of Science—Geophysics

Degree Requirements

M.A. and M.S. candidates follow an integrated course of study recommended by a placement committee and the graduate adviser.

The student must demonstrate, by coursework and by preparation of one research paper and by oral examination, superior competence in the field of specialization, broad knowledge in the geological sciences, and satisfactory knowledge of sciences other than geology that are relevant to the fields of interest.

Demonstration of a scientific reading knowledge of any modern foreign language, or the satisfactory completion of an approved related set of courses (8 units) supplementary to the program outside the department is required.

The M.A. and M.S. degrees are normally earned by preparation of a satisfactory thesis and completion of 30 units (at least 12 units in graduate courses). Geology 260 and all 500-series courses (except 596) are excluded from these graduate course units.

The candidate for the Master of Science degree in geophysics may also be required to present a defense of the thesis in open forum.

Doctor of Philosophy—Geological Sciences

The formal course requirements for the Ph.D. are the same as for the M.A. degree (see above).

1. Doctoral comprehensive exam. The student must demonstrate, by coursework and by preparation of two research papers and by oral examination, superior competence in the field of specialization, broad knowledge in the geological sciences, and satisfactory knowledge of sciences other than geology that are relevant to the fields of interest.

2. Language requirement. The student must demonstrate, by examination or coursework, either (a) excellent reading knowledge of one foreign language, generally French, German, or Russian, or adequate reading knowledge of two languages other than English; or (b) competence in a science, in mathematics, or in a field of study usually related to but not part of the area of specialization and normally outside the Department of Geological Sciences, subject to the approval of the department.

3. Advancement to candidacy. After completion of 1 and 2 above, but before being formally admitted to candidacy, the student must pass a comprehensive oral examination administered by the dissertation committee.

4. Thesis defense. A dissertation must be prepared in a professional style and approved by the committee. The candidate is required to present its principal conclusions in open forum.

Geological Sciences Courses

LOWER DIVISION

2. General Geology: Physical

(4) STAFF

Each student must enroll in either a laboratory or a discussion section. Lecture, 3 hours; discussion, 1 hour or laboratory, 3 hours.

Introduction to the earth sciences; properties and processes of the earth's surface and its interior; rocks and minerals, geologic maps, land forms, and structures. (F,W,S)

2H. General Geology: Physical (Honors)

(5) STAFF

Prerequisites: Honors standing, consent of instructor. Lecture will meet concurrently with Geology 2. Lecture 3 hours; seminar 1 hour; laboratory 2 hours.

Introduction to the earth sciences; properties and processes of the earth's surface and its interior; rocks and minerals, geologic maps, land forms and structures. Each student must enroll in a laboratory and attend weekly seminar.

3. General Geology: Historical

(4) AWRAMIK

Prerequisite: Geology 2. Lecture, 3 hours; discussion, 1 hour; laboratory, 3 hours. Laboratory required for majors.

Antiquity and history of the earth, its physical changes, and the record of biological evolution. (S)

3H. General Geology: Historical (Honors)

(5) AWRAMIK

Prerequisites: Honors standing, consent of instructor; lecture will meet concurrently with Geology 3. Lecture, 3 hours; discussion, 1 hour; laboratory, 3 hours.

Antiquity and history of the earth, its physical changes, and the record of biological evolution. (S)

3LX. Laboratory, General Geology-Historical

(1) AWRAMIK

Prerequisite: Geology 3.

Elementary problems in paleontology and stratigraphy. (S)

4. Introduction to Oceanography

(4) STAFF

Lecture, 3 hours; laboratory, 2 hours.

An introduction to oceanography covering the major physical, chemical, and geological features of the oceans, their role in earth history, and potential use as a natural resource. (F,W,S)

4H. Introduction to Oceanography (Honors)

(5) STAFF

Prerequisites: honors standing and consent of instructor; lecture will be concurrent with Geology 4 with honors discussion led by instructor. Lecture, 3 hours; seminar, 1 hour; laboratory, 2 hours.

An introduction to oceanography covering the major physical, chemical, and geological features of the oceans, their role in earth history, and potential use as a natural resource. (F,W,S)

7. The Age of Dinosaurs

(4) WYSS

Lecture, 3 hours; discussion, 1 hour.

The origin and diversification of dinosaurs, and the evolutionary relationship of dinosaurs (including their living descendents) to other major groups of vertebrates. Broad introduction including discussion of dinosaur ecology, anatomy, extinction, and paleogeography. (F)

7H. The Age of Dinosaurs (Honors)

(5) WYSS

Prerequisites: honors standing and consent of instructor; lecture will be concurrent with Geology 4 with honors discussion led by instructor. Lecture, 3 hours; seminar, 1 hour; discussion, 1 hour.

The origin and diversification of dinosaurs, and the evolutionary relationship of dinosaurs (including their living descendents) to other major groups of vertebrates. Broad introduction including discussion of dinosaur ecology, anatomy, extinction, and paleogeography. (F)

18. Field Studies in Geological Science

(1) SYLVESTER, NORRIS, KELLER, TIFFNEY, ATWATER

Prerequisites: Geology 2 or its equivalent (may be taken concurrently); enrollment by consent of instructor only. May be repeated four times for credit. P/NP grading only. Field trip.

Four and one-half day field trip, fall or spring quarter. Field studies under guidance of two or three staff members introducing the geology of California. Four trips offered in sequence: fall: Imperial and Colorado Deserts or Eastern Mojave Basin; spring: Death Valley or Saline Valley-Inyo-White Mtns., Mono Lake. (F,S)

20. Geological Catastrophes

(4) ARCHULETA, BUSBY

Lecture, 3 hours; discussioin 1 hour.

Course deals with geological catastrophes, e.g., earthquakes, volcanic eruptions, tsunamis, and landslides. Students will learn the basic physical causes of these naturally occurring events and discuss the consequences. (W)

30. The History of Life

(4) AWRAMIK, TIFFNEY

Lecture, 3 hours; discussion, 1 hour.

The origin and evolution of life from its beginning over 3-1/2 billion years ago to the present day. Broad introduction to the complexity and diversity of life as revealed by fossils. (W)

30H. History of Life (Honors)

(4) AWRAMIK, TIFFNEY

Prerequisites: honors standing and consent of instructor; lecture will be concurrent with Geology 30, with honors discussion led by instructor. Lecture, 3 hours; discussion 1 hour.

The origin and evolution of life from its beginning over 3-1/2 billion years ago to the present day. Broad introduction to the complexity and diversity of life as revealed by fossils. (W)

40. Quantitative Problems in the Geosciences

(4) FULLER

Prerequisites: Physics 6C and Mathematics 3C.

Applications of elementary calculus and physics to problems in geology and geophysics. Examples include sedimentation, basin formation, moment of inertia for the earth, magnetic fields, radioactive decay, impact cratering, convection, and sediment transport. Content of course will vary from year to year. (Not offered 1993-94)

50. Crystallography

(4) WISE

Prerequisite: Chemistry 1A (concurrent enrollment is acceptable). Lecture, 2 hours; laboratory, 6 hours.

Principles of crystallography and optical crystallography, including the control of crystal structure and composition on the symmetry and physical properties of minerals. (F)

51. Mineralogy

(4) WISE

Prerequisite: Geology 50. Lecture, 2 hours; laboratory, 6 hours.

Properties, origins, associations, and determination of the more important ore and rock forming minerals, using hand specimens and optical methods. (W)

98. Readings in Geological Sciences

(1-3) STAFF

Prerequisite: honors in geological sciences at lower-division level, as determined by faculty sponsor and chair of department. May be taken more than once. Variable hours.

Critical reviews and discussions of selected geological subjects. (F,W,S)

UPPER DIVISION

100. Introduction to Geophysics

(4) ARCHULETA, FULLER

Prerequisite: Geology 2 or 3, Mathematics 3C, Physics 6C, or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Survey of major topics in geophysics at an elementary level; the figure of the earth, its gravitational and magnetic fields, seismology and the deep structure of the earth, heat flow, methods of geophysical exploration. The geophysical basis of plate tectonics and sea floor spreading. (S)

101. Principles of Geology
(5) STAFF

Prerequisites: consent of instructor. Open only to science majors. Not open for credit to students who have taken Geology 2.

Accelerated introduction to geological principles, processes, and history; rocks and minerals, geologic maps, land forms, and structures; earth history and the fossil record of biological evolution.

102A. Igneous Petrology
(3) STAFF

Prerequisites: Mathematics 3A-B-C or approved equivalent; Geology 50, 51.

Introduction to the occurrence, associations, tectonics, and petrogenesis of plutonic and volcanic rocks. Introduction to physical chemistry of magma systems; magmatic crystallization and differentiation; pluton emplacement, volcanic eruption mechanisms. (W)

102AL. Igneous Petrology Laboratory
(2) STAFF

Prerequisites: Geology 50, 51, and 102A (Geology 102A and 102AL are normally taken concurrently). Laboratory, 6 hours.

An introduction to the classification and identification of igneous rocks, studied with the petrographic microscope and in hand specimen. (W)

102B. Sedimentology
(3) BUSBY

Prerequisites: Mathematics 3A-B-C or approved equivalent, with minimum of 2.3 grade-point average and no grade lower than C in this series; Geology 51. Lecture, 3 hours; field trips.

The texture, mineralogy, classification, and primary structures of sedimentary rocks and their significance in relation to regional setting, environment of deposition, and postdepositional history. Field study will emphasize interpretation of sedimentary sequences. (S)

102BL. Sedimentology Laboratory
(2) BUSBY

Prerequisites: Geology 50, 51. Geology 102B must be taken concurrently. Lecture, 1 hour; laboratory, 5 hours.

Practical experience in identification of sedimentary rocks, using the petrographic microscope. (S)

102C. Petrology of Metamorphic Rocks
(3) PATRICK

Prerequisite: Mathematics 3A-B-C or approved equivalent; Geology 50 and 51.

Introduction to the occurrence and petrogenesis of metamorphic rocks. Grades and types of metamorphism, metamorphic reactions, phase diagrams, geothermometers, protoliths, and relation to tectonics. (S)

102CL. Petrology of Metamorphic Rocks Laboratory
(2) PATRICK

Prerequisites: Geology 50, 51, 102AL, 102C (Geology 102C and 102CL are normally taken concurrently). Laboratory, 6 hours.

An introduction to the identification and interpretation of metamorphic rocks, studied in hand specimen and with petrographic microscope. (S)

103. Fundamentals of Structural Geology
(3) GANS, PATRICK, SYLVESTER

Prerequisites: Mathematics 3A-B-C or approved equivalent; Physics 6A-AL-AS or 1; Geology 102A-B; Geology 104A or 122; senior standing or consent of instructor.

Studies of deformed rocks, folding and faulting, and geologic structure of the earth's crust. (W)

103L. Laboratory, Structural Geology
(3) GANS, PATRICK, SYLVESTER

Prerequisite: Geology 103 to be taken concurrently. Laboratory, 4 hours; field, 4 hours.

Descriptive geometry applied to geologic problems, use of stereonet, structure contouring and isopaching, map interpretation, exercises in structural analysis and synthesis. (W)

104A. Field Studies in Geological Methods
(4) SYLVESTER

Prerequisites: Geology 2, 2L, 3, 3L, or consent of instructor. Lecture, 1 hour; discussion, 1 hour; laboratory, 2 hours; field, 8 hours.

Introduction to the methods of geological observations and interpretations, with an emphasis on understanding earth processes in the field and reconstructing the physical history of the earth; the stratigraphic, petrologic, and structural relations of rocks; Geologic report writing. (F)

104AX. Field Studies in Geological Methods Tutorial
(1) SYLVESTER

Prerequisites: consent of instructor. To be taken concurrently with Geology 104A. Tutorial, 1 hour.

Adjunct tutorial course with Geology 104A, with additional emphasis on report writing, preparation, and field techniques. (F)

104B. Field Methods
(4) BOLES

Prerequisites: Mathematics 3A-B-C or approved equivalent, with minimum of 2.3 grade-point average and no grade lower than C in this series: Geology 102A or 102B or 122; Geology 103 and 103L with grade of C or better and consent of instructor. Certain upper-division prerequisites may be taken concurrently. Field, 6.5 hours; laboratory, 6.5 hours.

Geologic mapping on topographic maps and aerial photographs; use of geologic field instruments; field techniques; preparation of geologic maps and reports. (S)

105. Marine Geology
(4) HAYMON

Prerequisites: Geology 2 or 101; introductory courses in trigonometry, chemistry, physics. Lecture, 3 hours; discussion, 1 hour.

The geologic features and history of the world's ocean basins, emphasizing recent advances in deep sea exploration. Taught from the viewpoint of plate tectonics as the underlying theme of marine geology.

108. Clastic Depositional Environments
(4) BUSBY

Prerequisite: Geology 102B or consent of instructor. Lecture, 3 hours; field, averages 3 hours.

Review of sandstone depositional models including eolian, fluvial, deltaic, shoreline, shelf, and turbidite fan models. Use of facies models for observation, prediction, and hydrodynamic interpretation. Tectonic controls on the nature and distribution of sedimentary facies. Paleogeographic reconstructions and sedimentary evolution of strike-slip, rift, foreland, and arc-related basins.

109. Geology of California
(4) STAFF

Prerequisite: Geology 3 or consent of the instructor. It is strongly recommended that students enroll in Geology 18 either concurrently or subsequently. Lecture, 4 hours; field trips.

An introduction to the development of California's landscape and structural features; its water, mineral, and fuel resources.

110. Optical Mineralogy
(1-4) HAYMON, MATTINSON, WISE

Prerequisite: consent of instructor. May be repeated for credit to a maximum of 4 units.

Designed to meet the needs of individual students who have partially completed Geology 50 and 51. (F,W)

111. Principles of Paleontology
(3) TIFFNEY

Prerequisites: a beginning biology course or consent of instructor. Geology 111L is required concurrently.

The ecologic structure and evolution of the biosphere as illustrated by fossil record. (F)

111L. Principles of Paleontology Laboratory
(2) TIFFNEY

Lab is required to be taken concurrently with Geology 111.

Laboratory and field exercises and projects in the identification and interpretation of fossil taxa and fossil communities (F)

113. Engineering Geology
(4) KELLER

Prerequisite: upper-division standing, Geology 103, or consent of instructor. Lecture, 3 hours; field, 2 hours.

Application of geologic principles to civil engineering problems in soils, hydrology, earthquakes, landslides, coastal processes, dam and highway construction, and construction materials. (S)

117. Geomorphology
(4) KELLER

Prerequisite: Geology 3, or 101, or consent of instructor. Lecture, 3 hours; field trips.

Evolution of the landscape and relief features of the earth. (F)

118. Summer Field Geology
(12) STAFF

Prerequisites: Geology 102A or 102B; 103 and 103L with C or better grade; 104B with C or better grade. Eight weeks in the field during the summer.

Preparation of a geologic map, geologic sections, and a report on a selected region. (SS)

119. Field Investigations in Geology
(5-9) STAFF

Prerequisites: Geology 102A or 102B; 103 and 103L with C or better grade; Geology 104B with C or better grade; and consent of instructor and chair. May be taken in lieu of Geology 118, with approval of the department. Variable hours.

Selected field areas are investigated as research problems. Content varies from year to year. (SS)

120. Field Paleobiology
(3-4) AWRAMIK

Prerequisites: Geology 111, 111L, or consent of instructor. Seminar, 2 hours; laboratory, 2 hours.

Paleontologic field studies in selected areas. Studies include collection, identification, and description of fossils, their systematics, paleoecology, and biostratigraphy.

121. Principles of Evolution
(4) STAFF

Prerequisites: Geology 2 and 3, or Biology 11A-B. Same course as Biology 131. Lecture, 3 hours; discussion, 1 hour.

A foundation course concerning the mechanisms of evolution at micro- and macroevolutionary levels, and interpretation of the resulting patterns of adaptation and organic diversity.

122. Physical Stratigraphy
(4) STAFF

Prerequisite: Geology 102B or consent of instructor. Lecture 3 hours; field trips.

Principles and processes involved in the development and description of stratified rock accumulations.

123. The Solar System
(4) SPERA

Prerequisite: upper-division standing or consent of instructor. Lecture, 3 hours; discussion, 1 hour.

The nature and evolution of the planets of the solar system. Elementary treatment of cosmochemistry, meteoritics, and comparative planetology with special reference to current ideas on solar system evolution. (F)

124. Geochemistry I
(4) BOLES, LEA

Prerequisites: Chemistry 1C, Mathematics 3C, Geology 2 or 101.

An introduction to the utilization of chemical principles in earth sciences. Covers the application of thermodynamics, solution chemistry, precipitation and stability of minerals, redox process, and stable and radioactive isotopes to selected geological, environmental and oceanographic problems. (F)

125A. Geochemistry II
(4) MATTINSON

Prerequisites: Mathematics 3B, Chemistry 1C. Lecture, 3 hours; discussion, 1 hour.

Primarily geochronology. Age determinations using the K-Ar, Rb-Sr, Sm-Nd, U-Th-Pb, and Re-Os systems. Fission track, carbon-14 and disequilibrium dating methods. Age of the solar system, Moon and Earth. Applications to terrestrial geological problems.

125B. Geochemistry III
(4) MATTINSON

Prerequisites: Mathematics 3B, Chemistry 1C. Lecture, 3 hours; discussion, 1 hour.

Primarily isotope tracer studies. Applications of radiogenic isotopes of Sr, Nd, Pb and Os to problems in magma petrogenesis and the geochemical differentiation of the Earth over geological time.

128. Advanced Topics in Mineralogy
(1-2) WISE

Prerequisites: Geology 50 and 51, and consent of instructor. May be repeated for up to 8 units of credit. Tutorial, 2-6 hours.

Individual topics involving advanced methods and problems in mineralogy. Each has a value of 1 unit and it is largely autotutorial and self-pacing. Topics include x-ray diffraction (powder and single-crystal), universal stage, and ore microscopy.

133. Summer Field Geophysics
(12) LUYENDYK

Prerequisites: Geology 100 or Geology 131. Field, six weeks (six days/week).

A field practicum in exploration geophysics employing magnetic, gravity, electric, and seismic methods. An exploration target will be investigated for six weeks in the western United States. Interpretive report required.

134. Introduction to Geological Data Analysis Using the Microcomputer
(4) PROTHERO

Prerequisites: Mathematics 3A-B-C. Lecture, 3 hours; laboratory, 6 hours.

The Macintosh microcomputer is used as a tool for applying the theory and techniques of geological data analysis. Elementary programming in BASIC, statistical inference, error propagation, curve fitting, time series analysis, and map drawing will use geological data and examples. (W)

136. Geophysics (Seismology)
(S) ARCHULETA

Prerequisite: one year of college level calculus and physics. Mathematics 5A recommended (may be taken concurrently). Lecture, 3 hours; discussion, 1 hour; laboratory, 3 hours.

Wave propagation in an elastic medium; reflection and refraction, attenuation. Physics of the earthquake source, magnitude, seismic moment and focal mechanisms. (F)

137. Geophysics (Gravity and Geomagnetism)
(4) FULLER

Prerequisite: one year of college-level calculus and physics; Mathematics 5A recommended. Lecture, 3 hours; discussion, 1 hour.

The earth's gravity and magnetic fields, gravity and magnetic anomalies and their implications in oil and mineral exploration and plate tectonics. (W)

138. Geophysics (Physics of the Earth's Interior)
(3) TANIMOTO

Prerequisite: consent of instructor. Lecture, 3 hours.

The Earth's interior structure and its dynamics. Use of elasticity theory, fluid dynamics, and theory of heat transfer to understand tectonic processes. (S)

139. Reflection Seismology
(4) LUYENDYK

Prerequisites: Mathematics 5A or 119A, Physics 2, Geology 103 and 103L. Lecture, 3 hours; laboratory, 3 hours.

A review of the modern methods of hydrocarbon exploration by reflection seismology, including physical principles of reflections, data acquisition, processing, and interpretation. Laboratory exercises will focus on the interpretation of real data. (S)

140. Hydrothermal Ore Deposits
(4) WISE, HAYMON

Prerequisite: Geology 124 or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Geology, mineralogy, and geochemistry of hydrothermal ore deposits. (Not offered 1993-94)

141. Plant Paleobiology
(4) TIFFNEY

Prerequisite: Geology 111, upper-division standing in biology, or consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Examination of the history of land plants; the systematics, morphology, and phylogeny of major groups. Major evolutionary and biogeographic patterns. (W)

143. Stable Isotopes in Living and Fossil Biological Systems
(3) DE NIRO

Prerequisite: upper-division standing or consent of instructor. Lecture, 3 hours.

Processes responsible for distribution of stable isotopes in living biological systems; applications to modern and paleo-biochemistry, physiology, and ecology.

148. Vertebrate Paleontology
(4) WYSS

Prerequisite: Geology 30. Lecture, 3 hours; discussion, 1 hour.

Introduction to the history of vertebrate life, with emphasis on the phylogenetic relationships of the major vertebrate groups. (S)

150. Advanced Sedimentary Petrography
(2) BOLES

Prerequisites: Geology 102BL; consent of instructor. Lecture, 1 hour; laboratory, 3 hours.

Emphasis on (1) interpreting detrital compositions in terms of depositional environments and tectonic reconstructions and (2) recognition and interpretation of diagenetic mineral assemblages. Advanced techniques of identification to include point counting centrifuge mineral separations, X-ray diffraction, cathodoluminescence, SEM and electron microprobe.

156. Tectonic Controls on Sedimentation
(3) BUSBY

Prerequisite: consent of instructor.

Origin and evolution of sedimentary basins. Discussion of assigned papers on selected topics, including sedimentation in strike-slip basins, foreland basins, arc-trench systems, rift margins and aulocogens. Short term paper required. Content of course will vary year to year. (F)

157. Plate Tectonics
(4) ATWATER

Prerequisites: basic geology and a year sequence in university mathematics and physics. Lecture, 3 hours; laboratory, 3 hours.

Introduction to sea floor spreading, plate tectonics, and continental drift. Geometry and evolution of present day plates. Measurement and calculation of plate motions. Geophysical and geological implications of resulting relative motions at plate boundaries. (S)

158. Topics in Advanced Structural Geology
(S) STAFF

Prerequisites: Geology 103, 104B, and consent of instructor. Lecture, 3 hours; laboratory, 3 hours.

Rock deformation in relation to crustal environment; finite strain analysis of deformed rocks; mineral deformation mechanisms, microstructures, and rock fabrics; folding in theory and practice; analysis of polyphase deformation; fault structure and mechanics; the shallow earthquake source. Field studies.

160. Seminar in Geology
(1-1-1) STAFF

Prerequisites: upper-division standing, geology major, or consent of chair. May be repeated for credit to a maximum of 12 units. P/NP grading only. Seminar, 2 hours.

Attendance at departmental "Journal Club" (Geology 260, "Seminar in Geology") and brief written evaluations of the three papers which, in the student's judgment, were the best of the quarter. (F,W,S)

161. Marine Stratigraphy
(3) KENNETT

Prerequisites: open to graduates and qualified senior undergraduates. Seminar, 2 hours; short field trips.

Extensive reading and class discussion of concepts and methods of marine stratigraphy. Included are lithostratigraphy, biostratigraphy, chemostratigraphy, magnetostratigraphy, and chronology. Stratigraphic nomenclature. Problems and advances in correlation and dating of sediments including the Pacific, California, and Europe. Term paper. (F)

162. Marine Micropaleontology and Paleobiology
(4) KENNETT

Prerequisite: upper-division standing. Lecture, 2 hours; laboratory, 2 hours.

A survey of the major marine microfossil groups of the Cenozoic and Mesozoic; with particular reference to classification, preservation, evolution, stratigraphic utility, paleobiology, biogeography, paleoceanographic relations and sediment accumulation. (Not offered 1993-94)

163. Advanced Marine Geology: Paleooceanography and Marine Sediments
(4) KENNETT

Prerequisite: upper-division standing. Lecture, 3 hours.

Evolution of the world's oceans through geologic time in relation to plate tectonics, circulation and water mass development, chemistry and sediment accumulation, paleoclimates and polar glaciation, and evolution of marine life. Processes of formation of marine sediments. Approaches to paleoceanography. (Not offered 1993-94)

170. Environmental Geology
(4) KELLER

Prerequisites: Geology 2, 4, or Geography 3, or Environmental Studies 12, or consent of instructor. Not open for credit to students who have completed Geology 106. Same course as Environmental Studies 170.

Introduction to the entire spectrum of possible interactions between people and the geologic environment with emphasis on natural hazards, resources, and land-use planning.

171. Seminar on Submarine Hydrothermal Systems
(3) HAYMON

Prerequisite: Geology 124 or consent of instructor. Seminar, 3 hours.

Covers observational, experimental, and theoretical studies of seafloor hydrothermal processes; emphasizes systems at oceanic spreading centers; includes global hydrothermal effects on the compositions of seawater and ocean crust; focuses on recent developments and unsolved problems. (S)

181. Field Studies in Marine Geophysics
(2-8) MACDONALD

Prerequisites: science major of advanced standing and consent of instructor. May be repeated once, but only 8 units may be counted toward upper-division unit requirements. Lecture, 3 hours; laboratory, up to 40 hours.

Field studies in marine geophysical work with the opportunity of going to sea for up to one month. Lectures cover seismic, sonar, magnetic high resolution techniques for geologic study. (F)

182. Field Studies in Marine Geochemistry
(2-8) HAYMON

Prerequisites: science major of advanced standing and consent of instructor. Lecture, 3 hours; Laboratory, up to 3 hours; Field, up to 40 hours.

Marine geochemistry with the opportunity of going to sea or into the field on land. Lectures cover techniques of seafloor mapping using bottom photography, marine geochemical sampling, and methods of data reduction and sample analysis. Labs include analysis of data/samples collected. (Not offered 1993-94)

183. Advanced Field Mapping and Geologic Investigations
(3) GANS

Prerequisite: Geology 118 or equivalent, or consent of instructor.

This course will involve carrying out a research oriented mapping project to solve outstanding problem(s) in a geologically significant area. Two weeks in the field, followed by compilation and complementary laboratory studies. Weekly meetings to discuss results.

188. Field Studies in Neotectonics
(1-3) SYLVESTER

Prerequisites: Geology 103, 103L; senior standing or *consent of instructor. Field and tutorial. May be repeated for maximum of 3 units. Tutorial, 1/2-1 hour; field, 2-4 hours.*

Geodetic measurement of recent crustal movements around active faults and volcanoes. Includes techniques and analyses of precision levelling, triangulation, trilateration, and tiltmetry. Field work arranged as opportune. Term paper required if taken for 3 units. (F,W,S)

190. Advanced Studies in Paleobiology

(1-4) AWRAMIK, TIFFNEY, WYSS

Prerequisites: Geology 111 and consent of instructor. May be repeated for a maximum of 12 units. Laboratory, 3-12 hours.

Designed to meet the interests and needs of individual students. Selected readings and laboratory work in systematic paleontology; field studies of recent or fossil biotas; animal-substrate relations, biostatistics, etc. (F,W,S)

192. Field Internship in Engineering Geology

(1-4) STAFF

Prerequisites: Geology 113A and 113B, 3.0 grade-point average in major, and consent of instructor. May be repeated for credit but only 4 units may apply to the major. Tutorial, 1-4 hours.

Individualized, practical approaches to problems in engineering geology by working under faculty supervision as interns with local or state agencies or private organizations. Students will spend most of their effort in carrying out fieldwork, but will prepare written reports. (F,W,S)

194. Group Studies for Advanced Students

(1-5) STAFF

Prerequisites: upper-division standing; consent of the instructor and department chair. Students may repeat the course; no more than 5 units will apply to the major. Variable hours.

Intensive research or study by a small group of advanced students who share an interest in a topic not included in the regular departmental curriculum. (F,W,S)

195H. Honors Field Studies

(1-8) STAFF

Prerequisites: honors standing in department; consent of instructor and chairman. Variable hours.

Fieldwork in selected areas under the direction of a faculty member. Final report required.

196HA-HB-HC. Senior Honors Thesis

(4-4-4) STAFF

Prerequisites: senior honors standing in department, consent of instructor and chair. Laboratory, variable; research, variable.

Three quarter individual research project under the direction of a faculty member. Oral defense of written thesis required. (F,W,S)

197H. Honors Seminar in Geology

(1) STAFF

Prerequisite: honors standing in department or consent of chair. Discussion, 1 hour.

Bimonthly, two-hour seminar to discuss advanced topics in the geological sciences. Guest speakers. (F,W,S)

198. Readings in the Geological Sciences

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in geology. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students must obtain consent of the instructor and the department chair. May be taken more than once at the option of the student; not more than 4 units may be included in the minimum requirements for the major. Registration after opening day of the quarter is not permitted. Tutorial, variable hours.

Critical reviews and discussions of selected geological subjects. (F,W,S)

199. Independent Studies in Geology

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing in the major; 2) have a minimum 3.0 grade-point average. Consent of department and instructor. Petition required. Students are limited to 5 units per quarter; 15 units per year; and up to 30 units total in all 198 and 199 independent studies courses.

Course shall consist of academic research supervised by a faculty member. This course is not intended for internship credit. (F,W,S)

199RA. Independent Research Assistance in Geological Sciences

(1-5) STAFF

Prerequisites: Students must have: upper-division standing and a 3.0 grade-point average for the preceding three quarters; completed two upper-division Geology courses and consent of instructor. Students are limited to five units per quarter and 30 units total in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

200. Introduction to Geophysics

(4) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours; discussion, 1 hour.

Survey of major topics in geophysics at an elementary level; the figure of the earth, its gravitational and magnetic fields, seismology and deep structure of the earth, heat flow, methods of geophysical exploration. The geophysical basis of plate tectonics and sea floor spreading. Term paper. (S)

201. Graduate Research and Field Seminar

(4) AWRAMIK

Required of all entering graduate students. Seminar, 2 hours.

Faculty research projects will be presented in a series of evening seminars. Student research projects will be initiated. Three weekend field trips will sample field research in southern California. (F)

202A. Igneous Petrology

(4) STAFF

Prerequisite: Geology 50, 51. Lecture, 4 hours.

Introduction to the occurrence, associations, tectonics, and petrogenesis of plutonic and volcanic rocks. Introduction to physical chemistry of magma systems; magmatic crystallization and differentiation; pluton emplacement, volcanic eruption mechanisms. (W)

203. Field Seminar in Pyroclastic Rocks

(4) STAFF

Prerequisite: consent of instructor. Seminar, 2 hours; laboratory, 6 hours; one 4-week field trip.

Advanced topics in the genesis and significance of pyroclastic flows, surges, and fallout tuffs. Field research in Cordilleran North America supplemented by laboratory studies, classroom discussions of published literature, and student reports on special topics related to student field research.

204. Geology of Fluids and Flow

(4) STAFF

Prerequisite: consent of instructor. Lecture, 3 hours; field trips.

Depositional mechanisms and deposits of geologically significant fluid systems such as turbidity currents, pyroclastic flows, debris flows, and others.

206. Volcaniclastic Rocks and Sediments

(1-4) STAFF

Prerequisite: consent of instructor. Lecture, 2 hours; laboratory, 6 hours; field, 4 hours

Genesis and description of volcaniclastic rocks—pyroclastic, hyaloclastic, and epiclastic. Dispersal and depositional mechanisms, including subaerial and submarine varieties.

207. Diagenesis of Clastic Rocks

(3) BOLES

Prerequisites: Geology 50, 51, 102B, and 124; or consent of instructor. Lecture, 2 hours; laboratory, 3 hours.

Diagenesis of volcanic tuffs, sandstones, and shales. Course emphasizes controls of pressure, temperature, and solution chemistry to diagenesis. Laboratory includes application of thin section, x-ray diffraction, cathode luminescence to solving diagenetic problems. (W)

208. Clastic Depositional Environments

(4) BUSBY

Prerequisite: Geology 102B or consent of instructor. Lecture, 3 hours; field, variable.

Review of sandstone depositional models including eolian, fluvial, deltaic, shoreline, shelf, and turbidite fan models. Use of facies models for observation, prediction, and hydrodynamic interpretation. Tectonic controls on the nature and distribution of sedimentary facies. Paleogeographic reconstructions and the sedimentary evolution of strike-slip, rift, foreland, and arc-related basins.

209. Tectonic Controls on Sedimentation

(3) BUSBY

Prerequisite: consent of instructor. Seminar, 3 hours; preparation, 6 hours.

Origin and evolution of sedimentary basins. Discussion of assigned papers on selected topics, including sedimentation in strike-slip basins, foreland basins, arc-trench systems, rift margins and aulocogens. Term paper required. Content of course will vary year to year. (F)

210. Paleoecology: Principles and Approaches

(4) TIFFNEY

Prerequisite: consent of instructor. Discussion, 3 hours.

Application of paleontologic approaches to the interpretation of ancient environments and the solution of paleobiological problems. Laboratory, field, or library research leading to a term paper.

211. Engineering Geology

(4) KELLER

Prerequisite: graduate students only.

Application of geologic principles to civil engineering problems in soils, hydrology, earthquakes, landslides, coastal processes, dam and highway construction, and construction materials. Term paper required.

213A. Geochemistry II

(4) MATTINSON

Prerequisites: Mathematics 3B and Chemistry 1C. Lecture, 3 hours; discussion, 1 hour.

Distribution and geochemical classification of the elements. Partition coefficients and trace element fractionation in magmatic processes. Radiometric dating; use of strontium, lead and neodymium isotopes as geochemical tracers. Term paper on a topic selected in consultation with instructor is required.

213B. Geochemistry III

(4) MATTINSON

Prerequisites: Mathematics 3B and Chemistry 1C.

Primarily extraterrestrial geochemistry. Origin, age, and abundance of the elements. Geochemical evolution of meteorites, the moon, and the earth. A term paper on a topic selected in consultation with the instructor is required. (W)

214. Seminar in Marine Geophysics

(2-4) MACDONALD, STAFF

Prerequisite: consent of instructor. Seminar, 2-4 hours. Appropriate for majors in geology and physics. May be repeated for credit.

Current discoveries and unsolved problems in marine geophysics. Instruments and methods of study.

215. Pre-Phanerozoic Biogeology

(4) AWRAMIK

Prerequisites: advanced standing in geological or biological sciences; field trip; consent of instructor. Seminar, 2 hours; discussion, 1 hour; laboratory, 1 hour.

Problems in pre-Phanerozoic biogeology. Topically oriented seminars, discussions, and laboratories dealing with the nature of the early biosphere, atmosphere, and hydrosphere. Emphasis on the fossil record, both stromatolites and microfossils. (F)

216A. Stable Isotopy of Biogenic Materials

(4) DE NIRO

Prerequisites: graduate standing, consent of instructor. Seminar, 3 hours.

Directed reading and weekly seminar in stable isotopy of biogenic materials and its application to biology, archaeology, paleontology, and paleoecology.

216B. Stable Isotopy of Biogenic Materials Lab I
(4) DE NIRO
Prerequisite: Geology 216A. Laboratory, 4 hours.
Elementary laboratory techniques for determination of stable isotope ratios in biogenic materials.

216C. Stable Isotopy of Biogenic Materials Lab II
(4) DE NIRO
Prerequisite: Geology 216B. Laboratory, 4 hours.
Advanced laboratory techniques for determination of stable isotope ratios in biogenic materials.

217. Innovation on the Interface Between Paleobiology and Geochemistry
(4) DE NIRO, AWRAMIK
Seminar, 3 hours.
Potential interactions on the leading edge of Paleo-Biogeochemistry will be explored.

220. Biogeology
(4) AWRAMIK
Prerequisite: consent of instructor. Seminar, 2 hours; laboratory, 2 hours.
Advanced topics in biogeology. Deals primarily with Phanerozoic and contemporary problems bearing on the interpretation of global history. Emphasis will be on student projects designed to develop research skills and techniques.

221. Seminar in Petrofabrics
(4) SYLVESTER
Prerequisites: Geology 50, 51, and 103; or consent of instructor. Lecture, 2 hours; laboratory, 6 hours.
Consideration of theoretical, experimental, and empirical aspects of microscopic analysis of metamorphic tectonites.

222. Advanced Topics in Stratigraphy
(4) BUSBY
Prerequisite: consent of instructor. Lecture, 3 hours; field trips.
Current topics in stratigraphy with emphasis on paleogeographic/tectonic reconstructions. Field research in Cordilleran United States or Mexico, supplemented by laboratory studies and classroom discussion of published literature. Content of course will change from year to year.

223. Field Petrology Seminar
(4) STAFF
Prerequisites: Geology 102A and 201; or consent of instructor.
Seminar and field studies on petrologic topics of current interest. A two-hour seminar each week plus two days per week (average) in the field. Field studies will be on rock associations discussed in the seminars. (S)

225. Advanced Igneous Petrology
(4) SPERA
Prerequisite: Geology 102A or equivalent. Lecture, 3 hours; discussion, 1 hour.
The study of igneous rocks and their origins, with emphasis on their petrography, physical chemistry, and field relations. (W)

226A. Thermochemistry of Geological Systems
(4) SPERA
Prerequisite: elementary thermodynamics or physical chemistry. Lecture, 3 hours; discussion, 1 hour.
Derivation of the laws of thermodynamics; applications to geological problems of multicomponent systems, thermodynamic properties of geological materials.

226B. Thermochemistry of Geological Systems
(4) SPERA
Prerequisite: elementary thermodynamics or physical chemistry. Lecture, 3 hours; discussion, 1 hour.
Derivation of the laws of thermodynamics; applications to geological problems of multicomponent systems, thermodynamic properties of geological materials.

227. Mineral Paragenesis
(2) WISE
Prerequisite: Geology 128, or consent of instructor. Lecture, 2 hours.
Application of mineral data, such as composition and structural state, to rock origins.

227L. Laboratory, Mineral Paragenesis
(2) WISE
Prerequisite: Geology 227 to be taken concurrently. Laboratory, 6 hours.
Practical application of mineral data, such as composition and structural state, to rock origins.

228A. Isotope Geology
(3) MATTINSON
Seminar, 2 hours.
Current research in isotope geology or geochemistry. Typical topics include use of lead, strontium, neodymium, and other radioactive isotopic systems as natural tracers. Light stable isotopes with emphasis on oxygen. Geochemical evolution of the earth's crust and mantle.

228B. Advanced Geochronology
(3) MATTINSON
Seminar, 2 hours.
Current topics in geochronology with application to petrological and geological problems.

229. Petrochemistry
(4) WISE
Prerequisite: Geology 102A, 151, or equivalent. Lecture, 3 hours; laboratory, 1 hour.
The use of major and trace element chemical compositions of rocks in constraining their origin. Lab work consists of sample preparation and analysis by X-ray fluorescence methods.

235. Plate Tectonics Seminar
(2-4) ATWATER
Attend lectures with Geology 157. Lecture, 3 hours, seminar, 1 hour.
Read recent related articles. Students present and discuss selected topics in separate seminar. Complete term paper and/or problem sets for 3 or 4 units. (S)

236. Geophysics (Seismology)
(5) ARCHULETA
Prerequisites: One year of colledge level calculus and physics. Mathematics 5A recommended (may be taken concurrently).
Wave propagation in an elastic medium; reflection and refraction, attenuation. Physics of the earthquake source, magnitude, seismic moment and focal mechanisms. (F)

237. Geophysics (Gravity and Geomagnetism)
(4) FULLER
Prerequisites: one year college level calculus and physics; Mathematics 5A recommended. Lecture, 3 hours; discussion, 1 hour.
The earth's gravity and magnetic fields, gravity and magnetic anomalies and their implications in oil and mineral exploration and plate tectonics. Term paper. (W)

241. Plant Paleobiology
(4) TIFFNEY
Examination of the history of land plants; the systematics, morphology, and phylogeny of major groups. Major evolutionary and biogeographic patterns. Extra readings and paper. (W)

242. Seminar in Plant Paleobiology
(4) TIFFNEY
Seminar in selected topics in the evolution, phylogeny, paleogeography and/or paleoecology of land plants.

245. Seminar in Neotectonics
(3) SYLVESTER
Prerequisites: Geology 103, 103L, or equivalent; consent of instructor. Seminar, 3 hours; field trips.
Observation, interpretation, and significance of Holocene, historic, and current crustal movements caused by faulting, volcanism, subsidence, hydrocompaction, and isostatic adjustments.

247. Seminar in Quaternary Geology
(3) KELLER
Prerequisite: Geology 117 or consent of instructor. May be repeated for credit. Discussion, 3 hours; field.
Selected topics in quaternary geology. Subject matter will change from year to year.

248. Vertebrate Paleontology
(4) WYSS
Prerequisite: Geology 30.
Introduction to the history of vertebrate life, with emphasis on the phylogenetic relationships of the major vertebrate groups. Paper required. (S)

249. Seminar in Structure and Tectonics
(4) SYLVESTER
Prerequisite: Geology 201 or consent of instructor. Seminar, 3 hours.
Topical structural geology and tectonics.

251. Interpretation Theory in Geophysics
(4) LUYENDYK
Prerequisite: consent of instructor. May be repeated for credit. Lecture, 3 hours; Discussion, 1 hour; Laboratory, 6 hours.
Interpretation of geophysical data by direct and indirect methods, with the aim of determining subsurface geologic structure. Exercises will include modeling and inversion of either magnetic, gravity, and seismic data. Content will vary from year to year.

252. Geophysical Time Series Analysis
(3) PROTHERO
Prerequisites: Mathematics 5A-B-C, or equivalent. Seminar, 3 hours.
Basic principles of time series analysis and signal processing. Applications to geophysical data, including Fourier transforms, convolution, filtering, confidence limits, response functions, collection and processing of data, noise, power spectral density, and cross-correlation. Problems requiring the use of the computer are assigned. (S)

253. Earth's Magnetic Field
(3) FULLER
Prerequisite: Geology 137 or equivalent. Seminar, 3 hours.
A discussion of the earth's magnetic field and models of its origin. The present morphology and the paleomagnetic record of the history of the field. Particular attention will be paid to secular variation and to reversals. The principles of magnetohydrodynamics as applied to the origin of the field in the core of the earth will be developed.

255. Advanced Seismology
(3) TANIMOTO
Prerequisites: Geology 136 and consent of instructor.
Lectures on theory of wave propagation and free oscillations and its application to earthquake source problems and earth structure. Reading on key papers in each subject. Term paper.

256. Geophysical Inverse Theory
(3) PROTHERO, TANIMOTO
Prerequisites: Geology 136 and consent of instructor. Lecture, 3 hours.
Introduction to basic concepts of inverse theory such as resolution, error and its trade-off. Application to earth structure study, earthquake source, geodetic data and magnetic field. Reading on key papers. Term paper.

257. Earthquake Source Mechanics
(3) ARCHULETA
Prerequisite: Math 5C or equivalent. Lecture, 2 hours, seminar, 1 hour.
Examination of kinematic and dynamic descriptions of earthquake sources and their relation to data. Point sources, moment tensor, dislocations, equivalent forces, source parameters, source spectra, finite faults, fracture criteria, rupture velocity. (S)

259. Paleomagnetism and Tectonics
(3) LUYENDYK
Seminar, 3 hours; preparation, 6 hours.
Readings and discussion on topics concerning the tectonics of the Pacific rim, and especially the western U.S. Cordillera, as approached by the paleomagnetic method. Field trips and term paper required.

260. Seminar in Geology
(1) STAFF
Required of all first year graduate students. May be repeated for credit. P/NP grading only. Seminar, 1 hour.
Presentation and discussion of current research, and reviews of the literature on selected geologic concepts. Students will present material reflecting

their interests in geology for critical appraisal, of both content and manner of presentation, by selected members of the seminar. Emphasis will be placed on assisting students in developing professional speaking style. (F,W,S)

261. Marine Stratigraphy
(3) KENNETT
Prerequisites: open to graduates and qualified senior undergraduates. Seminar, 2 hours; short field trips.

Extensive reading and class discussion of concepts and methods of marine stratigraphy. Included are lithostratigraphy, biostratigraphy, chemostratigraphy, magnetostratigraphy, chronostratigraphy, and chronology. Stratigraphic nomenclature. Problems and advances in correlation and dating of sediments including the Pacific, California, and Europe. Term paper. (F)

262. Marine Micropaleontology and Paleobiology
(4) KENNETT
Lecture, 2 hours; laboratory, 2 hours; preparation, 4 hours.

A survey of the major marine microfossil groups of the Cenozoic and Mesozoic; with particular reference to classification, preservation, evolution, stratigraphic utility, paleobiology, biogeography, paleoceanographic relations, and sediment accumulation. (Not offered 1993-94)

263. Advanced Marine Geology: Paleoceanography and Marine Sediments
(4) KENNETT
Lecture, 3 hours; preparation, 6 hours.

Evolution of the world's oceans through geologic time in relation to plate tectonics, circulation and water mass development, chemistry and sediment accumulation, paleoclimates and polar glaciation, and evolution of marine life. Processes of formation of marine sediments. Approaches to paleogeography. (Not offered 1993-94)

266. Chemical Oceanography
(4) LEA
Prerequisite: Chemistry 1C or consent of instructor.

An introduction to the chemistry of the oceans. Topics include composition and chemical equilibria of seawater, biogeochemical cycling, sediment chemistry, atmospheric exchange, circulation and rates of mixing based on chemical tracers, and the impact of ocean chemistry on climate change. (W)

267. Seminar in Quaternary Paleoceanography
(2) LEA
Prerequisite: consent of instructor.

Current topics of research in Quaternary paleoceanography. Emphasis on reading and analysis of key papers.

270. Seminar in Geologic Problems
(1-3) STAFF
Prerequisite: graduate standing. Discussion, 1-3 hours.

Review and discussion of a current problem in geology. Content is variable and depends on student interest. (On demand.)

271. Seminar on Submarine Hydrothermal Systems
(3) HAYMON
Prerequisite: Geology 124 or consent of instructor. Seminar, 3 hours; preparation, 6 hours.

Covers observational, experimental, and theoretical studies of seafloor hydrothermal processes; emphasizes systems at oceanic spreading centers; includes global hydrothermal effects on the compositions of seawater and ocean crust; focuses on recent developments and unsolved problems. (S)

280. Seminar in Field Geology
(1-4) STAFF
Credit is one half of 1 unit per day in the field, with a maximum of 1 unit for any trip. May be repeated for a maximum of 8 units each academic year. S/U grading. Field, variable hours.

Field trips of one day or more, organized as opportune. Appropriate report required for each trip. (On demand.)

281. Field Studies in Marine Geophysics
(2-8) MACDONALD
Prerequisite: consent of instructor. Lecture, 3 hours; laboratory, up to 40 hours.

Field studies in marine geophysics using seismic, sonar, magnetic techniques in high resolution studies of deep-sea geologic features. Normally involves going to sea for one month. (F)

282. Field Studies in Marine Geochemistry
(2-8) HAYMON
Prerequisite: consent of instructor. Lecture, 3 hours; laboratory, up to 3 hours; field or preparation, 6-40 hours.

Studies in marine geochemistry with the opportunity of going to sea or into the field on land. Lectures cover techniques of seafloor mapping using bottom photography, marine geochemical sampling, and methods of data reduction and sample analysis. Labs include analysis of data/samples collected. (W)

283. Advanced Field Mapping and Geologic Investigations
(3) GANS
Prerequisite: Geology 118 or equivalent, or consent of instructor.

This course will involve carrying out a research oriented mapping project to solve outstanding problem(s) in a geologically significant area. Two weeks in the field, followed by compilation and complementary laboratory studies. Weekly meetings to discuss results. Paper required.

292. Field Internship in Engineering Geology
(1-4) STAFF
Prerequisites: Geology 113A and B, and consent of instructor. Only 4 units may apply to the graduate unit requirement for the M.A. degree. Tutorial, 1-4 hours.

Practical experience in problems in engineering geology, working under faculty supervision as interns with local or state agencies of private organizations. Students will spend most of their effort in field research, but also will prepare written reports. (On demand.)

501. Practicum in Instruction
(1-4) STAFF
Prerequisite: concurrent teaching assistant appointment. No unit credit allowed toward degree. Tutorial, 1-6 hours.

Practical experience in teaching in geological sciences. Student will have responsibility for one or more laboratory and/or discussion sections. Evaluations will be made by both staff and class.

502. Teaching Assistant Training
(2) STAFF
Maximum of three quarters. No unit credit allowed toward degree. Tutorial, 1-2 hours. (2 day workshop.)

Orientation and workshop in professional conduct and responsibilities. Course will involve observation of student in teaching situation (faculty visits or videotaping) and follow-up conferences, evaluations, and follow-up. (F)

503. Practicum in Research
(1-6) STAFF
Prerequisite: concurrent research assistant appointment. No unit credit allowed toward degree. Tutorial, 1-6 hours.

Practical experience in research in the geological sciences, under supervision of faculty member.

596. Directed Reading and Research
(2-12) STAFF
Prerequisites: consent of instructor and graduate advisor. No more than half the units necessary for the master's degree may be taken in Geology 596. Tutorial, 3-40 hours.

Individual tutorial. Written proposal for each tutorial must be approved by the instructor and the department chair. (F,W,S)

597. Individual Study for Master's and Ph.D. Examinations
(1-12) STAFF
Prerequisites: consent of instructor and graduate advisor. No unit credit allowed toward advanced degree. Laboratory, 3-36 hours.

Instructor should be student's major professor or chair of the committee. (F,W,S)

598. Master's Thesis Research and Preparation
(1-12) STAFF
Prerequisites: consent of instructor and graduate advisor. No unit credit allowed toward degree. Tutorial, 1-12 hours.

Master's thesis research and preparation. Instructor normally should be chair of the student's thesis committee. Only for research underlying the thesis, writing the thesis. (F,W,S)

599. Ph.D. Dissertation Preparation
(1-12) STAFF
Prerequisites: consent of instructor and graduate advisor. Variable hours.

Instructor normally should be chair of the student's doctoral committee. Only for research underlying the dissertation, writing the dissertation. Limited to terminal preparation. (F,W,S)

Germanic, Oriental, and Slavic Languages and Literatures

Department of Germanic, Oriental, and
Slavic Languages and Literatures,
Division of Humanities and Fine Arts,
Phelps Hall 6206;
Telephone (805) 893-2131
Department Chair: Laurence A. Rickels

Faculty

Stuart Atkins, Ph.D., Yale University, Professor Emeritus

Clifford A. Barraclough, M.A., University of Washington, Lecturer Emeritus

Yolanda Broyles González, Ph.D., Stanford University, Professor *(dramatic literature and performance, comparative literature, oral traditions, Chicano studies)*

Dorothy M. Chun, Ph.D., UC Berkeley, Assistant Professor *(German linguistics, intonation and discourse, applied linguistics, computer-assisted language learning, language and gender)*

Susan Derwin, Ph.D., The Johns Hopkins University, Assistant Professor *(19th-century comparative literature, psychoanalysis, Marxism)*

Richard C. Exner, Ph.D., University of Southern California, Professor Emeritus

Gunther H. Gottschalk, Ph.D., University of Southern California, Professor *(textual analysis, modern syntax, computer-based research and teaching, selected 20th-century authors)*

Robert Hetzron, Ph.D., UC Los Angeles, Professor *(general, Semitic, Ethiopian, and Hungarian linguistics)*

Gerhart Hoffmeister, Ph.D., University of Maryland, Professor *(baroque and romantic literature, comparative literature, German civilization)*

William F. Holtrop, Ed.D., UC Los Angeles, Professor Emeritus

Donald B. Johnson, Ph.D., UC Los Angeles, Professor Emeritus

Albert Kaspin, Ph.D., UC Berkeley, Professor Emeritus

Wolf D. Kittler, Ph.D., University of Erlangen-Nurnberg, Associate Professor *(19th- and 20th-century literature, critical theory, deconstruction, media technology)*

Roselinde Konrad, Senior Lecturer Emerita

Mstislav W. Kostruba, M.A., UC Santa Barbara, Lecturer Emeritus

Warren Lew, Ph.D., UC Santa Barbara, Lecturer *(humanities computing, bibliography and research methods)*

Rolf N. Linn, Ph.D., UC Los Angeles, Professor Emerita

Torborg Lundell, Ph.D., UC Berkeley, Professor *(selected Scandinavian authors, Swedish language, comparative literature, folklore and fairy tales)*

Randell W. Magee, M.A., University of Chicago, Lecturer *(Russian language and pedagogy)*

Ursula R. Mahlendorf, Ph.D., Brown University, Professor Emerita

Laurence A. Rickels, Ph.D., Princeton University, Professor *(critical theory, psychoanalysis, deconstruction, 18th-, 19th-, and 20th-century literature)*

Devora Sprecher, Lecturer in Hebrew *(Hebrew language pedagogy, Jewish studies)*

Harry Steinhauer, Ph.D., University of Toronto, Professor Emeritus

John T. Waterman, Ph.D., UC Los Angeles, Professor Emeritus

Elisabeth Weber, Ph.D., University of Freiburg, Assistant Professor *(18th- and 19th-century literature and philosophy, German-Jewish culture, deconstruction)*

The Department of Germanic, Oriental, and Slavic Languages and Literatures offers programs of study leading to the B.A., M.A., and Ph.D. degrees in Germanic languages and literatures, and the B.A. in Slavic languages and literatures. Students in each program acquire an appropriate linguistic background in lower-division courses, study the historical development of the language, and are exposed to the modern language in almost all upper-division classes. The department also offers courses in computer applications and computer-aided research and instruction. The curriculum for each program is designed to provide a thorough survey of the literature.

The department offers a one-year sequence in elementary Swedish and upper-division courses in translation in Scandinavian literature, folklore, and fairy tales. Germanic languages and literatures majors may find the study of Swedish language and literature useful to their major. Two years of Hebrew language courses are offered, with additional offerings in linguistics and literature. Advanced Swedish and Hebrew language instruction is also available on a tutorial basis.

Qualified students majoring in Germanic languages and literatures may spend their junior year at the University's Education Abroad Center at Goettingen. Slavic languages and literatures majors may compete for an opportunity to spend a semester at St. Petersburg University. Hebrew language and literature students are prepared for study in the University of California's Center for Education Abroad in Jerusalem. Prior study of the relevant language is either required or recommended in every case.

Undergraduate and graduate students are assigned advisers at the beginning of their studies; all advisers keep posted office hours and are available by appointment as well.

After completing specific prerequisites, students with a bachelor's degree in Germanic languages and literatures or Slavic languages and literatures are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education and with their department adviser.

Undergraduate Program

Bachelor of Arts—Germanic Languages and Literatures

Preparation for the major. Required, with grades of C or higher: German 1, 2, 3, 4, 5, 6, or equivalent levels in German 14, or placement beyond German 6 in the departmental placement examination. German 8A-B is recommended. *Note: students who have completed a more advanced course in a lower-division sequential series will not be permitted to take a course that is lower in the series.*

Upper-division major. Completion of one of the following emphases is required.

Literature. This emphasis is designed for students who are interested in a rigorous liberal arts education and for those who intend to pursue a graduate career in literary studies or library science. Forty-four upper-division units are required, including German 101A and 101B or 101C, 107A or 107B or 107C, 121 or 122 and 190. (Native speakers of German should substitute 110A-B for 101A and 101B or 101C.) The remaining electives will be selected from upper-division German offerings, with no more than 8 units from courses taught in English. Electives must include 4 units in each of the following centuries: 18th, 19th, and 20th (these courses must be taught in German. Up to 8 units of upper-division electives in related fields may be accepted into the major by petition.

A year of study abroad at a German-speaking institution of higher learning is highly recommended. Students who intend to pursue German at the graduate level are encouraged to supplement their major by selecting, in consultation with their department adviser, 20 units of courses from another literary, historical, or philosophical discipline.

German Studies

This emphasis is designed especially for students who wish to enter such fields as political science, business, or economics, the teaching credential program or a master's program with a teaching emphasis. Forty-four upper-division units are required, including German 101A and 101B or 101C (native speakers of German should substitute German 110A-B for 101A and 101B or 101C), 107A-B-C, 120, and 190. The remaining units are to be chosen from upper-division courses in German literature, culture, and language. No more than 8 units of courses taught in English and 16 units of language courses may be applied to the upper-division electives. Up to 8 units of upper-division courses in German history, art, politics, Scandinavian and/or comparative literature, may be applied to the major by petition.

A year of study abroad at a German-speaking institution of higher learning is highly recommended. Students are encouraged to supplement their major by completing 20 or more upper-division units in another discipline such as Scandinavian, political science, history, economics, one of the sciences, or engineering. Departmental courses in computer literacy are also recommended.

Education Abroad Program participants in either concentration should determine credit and unit limitations for their proposed work at Goettingen, in advance, from their advisers.

Senior Honors Program in German

Students may request nomination for the senior honors program by filing an application form, or they may be nominated by faculty. Qualifying requirements include an overall grade-point average of at least 3.0 with 3.5 in the Germanic languages and literatures major, and at least 105 units completed, including at least two upper-division courses in German. Descriptions of program requirements and applications may be obtained in the department office.

Bachelor of Arts—Slavic Languages and Literatures

Preparation for the major. Required, with grades of C or higher: Russian 1, 2, 3, 4, 5, 6, or equivalent as determined by departmental placement examination. Recommended: History 4A-B-C and 135A-B-C. Students transferring from other institutions may be tested by examination. Students who have completed a more advanced course in a lower-division sequential series will not be permitted to take a course that is lower in the series.

Upper-division major. Forty upper-division units in Russian courses are required, including Russian 101A-B-C; a minimum of 8 units selected from Russian 102, 103, 105, 107, 121, 122, 123; and a minimum of 8 units selected from Russian 115A-B, 125, and 161. Interdisciplinary 118A-B is recommended.

UCSB participates in a national program through which sixty students each year spend a semester studying at Leningrad University in the USSR. Outstanding students have a good chance of being selected; financial assistance is available. Additional information is available in the department office.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet university degree requirements found in the chapter "Graduate Education at UCSB."

Summer Institute of German Language and Culture

A three-summer intensive program leading to the M.A. degree is designed primarily for secondary school teachers of German. Since it is not a research-oriented degree, the Summer Institute M.A. will not completely fulfill requirements for entry into the Ph.D. program at UCSB. Residence at the institute and observance of a "no English" rule are required.

Prerequisites. In addition to fulfilling the general requirements for admission to graduate status, the student must have an undergraduate major in German or its equivalent and must demonstrate proficiency in speaking and writing German.

Coursework. The M.A. requires 40 units (no thesis), as follows: (1) Group A, Language: German 261A-B-C (two required) and 262A-B-C; (2) Group B, Culture and History: German 277, 278, 279, 279A, and two courses from the following: 265, 266, 276, 280, 283, 285.

Recommended preliminary readings. Students can do the reading for most Group B courses during the winter; lists appear in the *Informationblatt*, published in the fall and available upon request.

For information and application forms, write to the Summer Sessions Office, University of California, Santa Barbara, CA 93106.

Master of Arts—Germanic Languages and Literatures

Admission

In addition to the general requirements of the Graduate Division, the following departmental requirements apply: (1) all applicants for admission must submit scores on the General Aptitude Test of the Graduate Record Examination; and (2) applicants must have an undergraduate major in German literature or its equivalent. Candidates may be required to take undergraduate courses to make up deficiencies in preparation before or concurrent with beginning work in the master's program.

Degree Requirements

The department offers the M.A. degree under Plan 2 (without thesis) only. Two kinds of qualifying examinations are offered for the M.A. degree, one for students who do not wish to continue to the Ph.D. program and one for students who do wish to continue. An oral examination follows the written examination of continuing candidates, testing the student's literary-historical and interpretive skills in the chosen area of concentration.

To satisfy the foreign language requirement for the M.A., the student must complete, with a grade of B or better, one upper-division literature course in a language other than German in which readings are substantially in the foreign language, or take a departmental examination. Courses taken to fulfill a foreign language requirement, or taken in preparation for meeting a foreign language requirement, will not be counted as part of a graduate student's academic course load.

One four-unit course in another department may, with the approval of the graduate adviser, be counted toward the degree; no undergraduate courses may be counted toward the M.A. degree. Particular attention is called to our graduate-level courses in computer-aided research, textual analysis, and language instruction.

Doctor of Philosophy—Germanic Languages and Literatures

Admission

In addition to the general requirements of the Graduate Division, the applicant must submit scores on the General Aptitude Test of the Graduate Record Examination. Students admitted to the Ph.D. program who have taken an M.A. degree at another institution will be evaluated during the third quarter of their residence to determine whether successful completion of their studies is likely.

Degree Requirements

After satisfactory completion of the M.A. equivalent, the student will be advised by the graduate adviser, from quarter to quarter, about which courses are necessary for proper preparation for the doctoral qualifying examination.

The Ph.D. language requirement is competency in two languages in addition to English and German. The first foreign language requirement is described in the section on the M.A. degree, above. To satisfy the second foreign language requirement for the Ph.D., the student must complete, with a grade of B or better, one upper-division literature course in a language other than German in which the readings are substantially in the foreign language. The student may substitute for the second foreign language a departmental examination, or may complete course 3 of the regular sequence of a second foreign language with a grade of B or better, or may place into course 4 on the language placement examination. Courses taken to fulfill a foreign language requirement, or in preparation for meeting the foreign language requirement, will not be counted as part of a graduate student's academic course load.

Written examinations, followed by an oral examination during which the student presents detailed plans for dissertation research, test three of the following areas of concentration, chosen in consultation with the graduate adviser:

1. Literature of the Middle Ages, or History of the Language, or German Linguistics and Philology, or Literary Theory;
2. Humanism and Reformation, Baroque and Enlightenment;
3. Storm and Stress, German Classicism;
4. Romanticism and Literary Movements of the Later Nineteenth Century, including Poetic Realism and Naturalism;
5. German Literature of the Twentieth Century.

No more than two areas of concentration may be selected from Areas 3, 4, and 5.

Upon passing the qualifying examination, the student will be advanced to candidacy. A dissertation must then be written, and defended in an oral examination.

German Courses

LOWER DIVISION

1. Elementary German

(4) STAFF

The beginning course in German. The student acquires the basic structure of the language, a limited general vocabulary, correct pronunciation, and an ability to read and understand simple cultural texts. Weekly laboratory assignments support and enhance classroom learning.

1G. Introduction to Reading German (for graduate students)

(3) STAFF

Prerequisite: graduate standing in any field. May be repeated.

A brief introduction to the essentials of German grammar with emphasis on aspects of structure that are indispensable for reading skills (while deemphasizing those that are not). Reading texts are included from the beginning. (F) (First part of the sequence German 2G and 3G.)

2. Elementary German

(4) Staff

Continuation of German 1.

2G. Introduction to Reading German (for graduate students)

(3) STAFF

Prerequisites: graduate standing in any field; completion of German 1G or equivalent. May be repeated.

The course is a continuation of German 1G, using the same approach, with reading texts on a somewhat more complex level. (W)

3. Elementary German

(4) STAFF

Continuation of German 2.

3G. Introduction to Reading German (for graduate students)

(3) STAFF

Prerequisite: graduate standing in any field; completion of German 1G and 2G or equivalent. May be repeated.

The course is a continuation of German 1G and 2G, using the same approach, with reading texts on a more complex level. (S)

4. Intermediate German

(4) STAFF

Continuation of German 3.

5. Intermediate German

(4) STAFF

Continuation of German 4.

6. Intermediate German

(4) STAFF

Continuation of German 5.

8A-B-C. German Conversation

(2-2-2) STAFF

Prerequisites: German 3 or equivalent is prerequisite to A, German 4 or 8A is prerequisite to B, German 5 or 8B is prerequisite to C. Discussion, 2 hours.

Conversation course conducted entirely in German.

10. Elementary Yiddish

(4) STAFF

Introduction to the Yiddish language. Stress on developing rudimentary reading, writing, and some speaking skills. For letter grade only.

14M. Individualized Instruction

(1-12) STAFF

Self-paced course in which students determine number of credit units they wish to complete and the level at which they wish to work. At least one credit unit must be completed. Maximum number of credit units which can be earned is 12. The inclusive level of instruction available is equivalent to the elementary courses German 1, 2, or 3. Final grade calculated on total number of units earned. The minimum 1 unit required must be completed no later than the last drop date (see summer session calendar) or a grade of F for one credit will be recorded (no Incompletes allowed). (summer session only)

30A-B. Masterpieces of German Literature

(4-4) HOFFMEISTER

A survey of German masterpieces within a European context of economic, social, and literary cross-currents. A: from the Nibelungenlied to Werther; B. from Faust to the Red Werther. Taught in English.

33. Introduction to German Culture

(4) STAFF

Essential aspects of the present-day cultural scene in Germany, Austria, and Switzerland. Specific issues will change in order to reflect current socio-political problematics. Taught in English.

40. Computers in Language and Literature

(4) GOTTSCHALK

Introduction to the use of micro-and mini-computers in language and literature teaching and research. Development of model teaching programs at various levels. Programmed instruction. From teaching machines to computer assistance in the development of curricula, course texts, and exercises.

94A-B. Individual Languages

(4) STAFF

Reading of texts and presentation of grammar, with some conversation drill. A. Hungarian. B. Yiddish.

UPPER DIVISION

German majors please note that no more than 8 units of German courses taught in English may be counted toward the major.

101A. Advanced German

(4) STAFF

Prerequisite: German 6 or equivalent.

A course in advanced structure of German aimed at improving oral and written expression as useful skills. Oral comprehension is also emphasized.

101B. Advanced German

(4) STAFF

Prerequisite: German 101A or equivalent.

Continuation of German 101A.

101C. Advanced German

(4) STAFF

Prerequisite: German 6 or equivalent.

An intensive reading course using advanced texts, mostly literary, to improve reading skills through a structural approach. This course may be taken simultaneously with or after German 101A or 101B. Taught in German.

102A-B-C. Advanced German Conversation

(2-2-2) STAFF

Prerequisite: German 6 and 8A-B-C or equivalent.

The advanced conversation series gives students with a high degree of fluency an opportunity for discussing nonliterary issues. Active participation, progress in idiomatic expression, and individual presentations form the criteria for grading. Assignments and testing oral.

103. Phonetics and Phonology

(2) CHUN, GOTTSCHALK

Prerequisite: German 6 or equivalent. German 103 is strongly recommended before German 120.

Study of the articulatory basis of the sounds of German standard pronunciation, and a comparison with the English.

104. German Language and Society

(4) CHUN

Prerequisite: German 6 or the equivalent.

Varieties of standard and colloquial German as used by different social groups, in various geographical areas, by media and official institutions. Attitudes of German society toward specific language usages: language purism, linguistic prejudices, policies with regard to language barriers. Readings and exercises in analyzing data.

105. The Mystery of Caspar Hauser

(4) WEBER

Prerequisites: German 6 or equivalent.

The mystery of Caspar Hauser's origins and death has not been resolved..But the story of his short life narrates the adventure of a "wild child" who discovers words, dreams and lies – in short, narrates the discovery of language. Taught in German.

107A-B-C. History and Culture of German Speaking Countries

(4-4-4) STAFF

Prerequisite: German 6 or equivalent.

A: A study of German cultural history from the great migrations to the age of Baroque.
B: From the Enlightenment to 1933.
C: From 1933 to the present, with focus on the contemporary political, cultural, and socioeconomic situation in the German Speaking countries, with an emphasis on the contrast between East and West Germany. Taught in German.

108A-B. German History of Ideas

(4-4) DERWIN, HOFFMEISTER

Prerequisite: upper-division standing or consent of instructor.

German history of ideas, discussing major contributions of German-speaking philosophers, theologians, artists, and poets to European thought. Taught in English.

A: From Middle Ages to French Revolution.
B: From romantic idealism to the present.

110A-B-C. Stylistics

(4-4-4) GOTTSCHALK

Prerequisites: German 6 or equivalent (for 110A); German 110A or equivalent (for 110B); German 110B or equivalent (for 110C).

A course in advanced composition, stressing refinements of idiom and style.

111A-B-C. Continuing German

(4-4-4) STAFF

Prerequisites: at least German 101A or 101B or 101C; consent of instructor.

A study of finer points of German grammar, syntax, and vocabulary expansion, following the advanced level of German. Essay writing and oral practice stressed equally.

112A. The Language of Business

(4) GOTTSCHALK

Prerequisite: upper-division standing or consent of instructor.

The course deals with specialized forms of present-day German with particular attention devoted to traditional, new, and just emerging terminology, to syntax, style, and usage as distinct from the everyday language.

112C. The Language of the News Media

(4) GOTTSCHALK

Prerequisite: upper-division standing or consent of instructor.

The course deals with specialized forms of present-day German with particular attention devoted to traditional, new, and just emerging terminology, to syntax, style, and usage as distinct from the everyday language.

113. German Idiomatic Phraseology

(4) HOFFMEISTER

Prerequisites: German 101C and either 101A or 101B.

Study of the origins, contextual usage and variation, as well as English and American equivalents of German idiomatic or proverbial sayings presented according to subject-matter categories.

115A-B-C. Survey of German Literature

(4-4-4) STAFF

Prerequisite: German 6 or equivalent.

A: Survey of the literary movements of the twentieth century.
B: Survey of the literature of classicism and romanticism.
C: Survey of the literary movements of the nineteenth century.

116. Utterance and Silence in Paul Celan's Work

(4) STAFF

Prerequisites: German 6 or equivalent; upper-division standing.

This course is devoted to discussing specific qualities of Paul Celan's work and his unique contribution to post-World War II German poetry. Close reading will be carried out with attention to usage of images, syntax, and vocabulary.

116A Testimonies of the Holocaust.

(4) WEBER

Prerequisites: upper-division standing or consent of instructor.

Close reading of post-holocaust German writing. Taught in English.

118A. Seminar on Computer-Assisted Textual Analysis.

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Interdisciplinary introudction for undergraduates in the Humanities to the application of computer technology to the comparative analysis of literary or nonliterary texts in English and foreign languages. Taught in English.

120. History of the German Language

(4) CHUN, GOTTSCHALK

Prerequisite: German 6 or equivalent.

A history of the language from its Germanic origins to modern times with special reference to the cultural and social forces that shaped the standard literary language.

121. Medieval Literature

(4) KITTLER, WEBER

Prerequisite: upper-divsion standing or consent of instructor.

A reading of heroic epics, courtly novels, and lyrics, such as Nibelungenlied, Tristan und Isolt, Parzival, and poems by Walther von der Vogelweide, Heinrich von Morungen and others. Taught in German.

122. Baroque Literature

(4) KITTLER

Prerequisite: upper-divsion standing or consent of instructor.

A reading of novels, dramas, and poetry by Grimmelhausen, Gryhius, Weise, Lohenstein. Taught in German.

125A-B. German-French Relations

(4-4) HOFFMEISTER

Prerequisite: German 6 or equivalent.

Study and analysis of German-French relations in cultural affairs from Charlemagne to the present: A. Middle Ages to Napoleon; B. Napoleon to 1990s. Taught in German.

126. Lessing and the Enlightenment

(4) STAFF

Prerequisite: German 6 or equivalent.

Studies in the literature of the German Enlightenment with a particular emphasis on theoretical and dramatic works of Lessing.

127A-B. Goethe

(4-4) HOFFMEISTER

Prerequisites: German 6 or equivalent is prerequisite to German 127A. German 127A or consent of instructor is prerequisite to German 127B.

Goethe's life and major works emphasizing his literary and intellectual achievement.

128. Goethe's Faust

(4) MAHLENDORF, RICKELS

Prerequisite: German 6 or equivalent.

Detailed interpretation of Goethe's Faust, parts I and II, together with consideration of the Faust theme and Faust tradition in European literature and intellectual history, including Thomas Mann's Dr. Faustus.

130. Schiller

(4) KITTLER

Prerequisite: German 6 or equivalent.

A study of selected poems, dramas, and essays. Taught in German.

133. German Fairytales

(4) STAFF

Prerequisite: German 6 or equivalent. Credit will not be granted for both German 133 and German 166.

Grimm's folktales, their social context, narrative techniques, recurring themes and characters; the literary fairytale with its various transformations of folk themes in the nineteenth and twentieth centuries. Lectures and readings in German.

134. Friedrich Nietzsche
(4) RICKELS
Prerequisite: German 6 or equivalent.

A study of Nietzsche in modern German literature. Selected works of Nietzsche and of authors who bear the mark of Nietzsche's influence (including Georg, Hesse, Hofmannsthal, Kafka, and T. Mann) will be examined as to their form and place in the history of ideas. Readings in German.

135. Heine
(4) RICKELS
Prerequisite: German 6 or equivalent.

Exploration of the ironic poetics and politics of the writer and the man. His influence on MArx, Nietzche, Wagner, and Freud will also come up for study. Taught in German.

136. Literature in German Film
(4) GOTTSCHALK, RICKELS
Prerequisite: German 6 or equivalent.

A study of the modern German cinema, and of its place in the culture and literature of the late twentieth century. Both the films and the literary works on which these films are based will be examined in the perspective of contemporary interpretations. Readings in German.

137. Current German Issues
(4) GOTTSCHALK
Prerequisites: German 101A-B-C (any two) or equivalent. Course may be repeated for credit up to a maximum of 8 units.

The major issues in present-day West German cultural, social, and political life as presented from the German point of view in German language news media, journals, and literature. Taught in German; applicable to German studies concentration.

138. Psy Fi: German Science Fiction
(4) RICKELS
Prerequisite: upper-division standing or consent of instructor.

In German culture and thought science fiction provided owner's manual instruction to technologization, modern total war, and psychological warfare. Taught in English.

142. The Novella: The Nineteenth Century
(4) DERWIN, GOTTSCHALK, HOFFMEISTER
Prerequisite: German 6 or equivalent.

Shorter prose works by authors from romanticism to naturalism. Taught in German.

144. Modern Short Prose
(4) GOTTSCHALK
Prerequisite: German 6 or equivalent.

Short stories, surrealist stories, parables, anecdotes, novellas, literary fairy tales, and experimental texts by authors from the turn of the century to the present, reflecting historical events, political and social changes in all parts of Germany. Taught in German.

146. Nineteenth-Century Lyrics
(4) STAFF
Prerequisite: German 6 or equivalent.

Poertry of the "Young Germany" movement, realism and naturalism. Taught in German.

147. German Immigration into the USA
(4) HOFFMEISTER
Prerequisite: upper-division standing or consent of instructor.

Studies the plight of the German farmers, craftsmen, and intellectuals in the old country from the eighteenth to the twentieth century which led to waves of emigration; the American dream; the patterns of settlement from east to west, the successes, integration, and the contributions of German speaking settlers, immigrants, and exiles over the last two centuries.

148. Nineteenth-Century Drama (Kleist to Hauptmann)
(4) KITTLER, WEBER
Prerequisite: German 6 or equivalent.

The German drama from Kleist to Hauptmann.

151. Twentieth-Century Prose
(4) GOTTSCHALK, MAHLENDORF
Prerequisite: German 6 or equivalent.

Beginning with expressionism, studies of the development of German prose in our century. Particular emphasis on the two most recent decades.

153. Studies in Twentieth-Century German Literature
(4) STAFF
Prerequisite: German 6 or equivalent.

One or more major figures will be studies each quarter: thomas Mann, Rilke, Brecht, Hess, Hofmannsthal, Böll, Stefan Zweig. Taught in German.

155. Twentieth-Century Drama (Postnaturalism)
(4) MAHLENDORF
Prerequisite: German 6 or equivalent.

Theory, characteristics, and practices of expressionist drama, epic theater, theater of the absurd, theater of cruelty, and postepic theater. The dramatic work of such authors as the following will be discussed: Wedekind, Kaiser, Sternheim, Toller, Brecht, Dürrenmatt, Frisch, Weiss, Grass.

157. Twentieth-Century Lyrics
(4) MAHLENDORF
Prerequisite: German 6 or equivalent.

Major developments in lyric poetry beginning with expressionism; emphasis on post-World War II poets and their work.

158. Bertolt Brecht
(4) BROYLES, GOTTSCHALK, MAHLENDORF
Prerequisite: German 6 or equivalent.

Plays, poetry, and prose and their social and political framework. Lectures and readings in German.

160D. Expressionism in the Film, in Art, and the Theater
(4) MAHLENDORF AND WALKER
Prerequisite: upper-division standing. (Same course as Art History 160D.)

Treating the social theory, aesthetics, and artistic techniques of expressionism in art, literature, and film. Readings and lectures in English.

161. Classicism and Romanticism in German Literature
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Selected readings in English translation from the classical and romantic German authors of the eighteenth and nineteenth centuries.

162. Kafka
(4) KITTLER, WEBER
Prerequisite: German 6 or equivalent.

An analysis of some of Kafka's writings with special attention to the notion of law, mediatechnology, and the Jewish tradition. Taught in German.

163. Contemporary German Literature, 1945-Present
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Selected readings in English translation from contemporary German literature, including such authors as Grass, Durrenmatt, Frisch, Weiss, Böll, etc.

164A-H. Great German Writers
(4) STAFF
Prerequisite: Upper-division standing or consent of instructor. May be repeated to a maximum of 12 units provided the letter designation is different.

One or more major figures will be studied each quarter. A. Böll, B. Kleist and Buchner, C. Goethe, D. Thomas Mann, E. Kafka, F. Nietzsche in Lit., G. Freud, H. M. Heidegger. Readings and lectures in English.

165. Youth Movements in German Literature and Culture
(4) HOFFMEISTER
Prerequisite: upper-division standing or consent of instructor.

Investigation of the recurrent phenomenon of youthful rebellion against the older generation; of the underlying causes in society, culture, literature; literature used as a vehicle of social protest; reactions by the establishment. REading of masterpieces and cultural manifestoes. Storm and stress to romanticism; young Germany to 1990's. Taught in English.

166. German Folktales and Fairytales
(4) STAFF
Prerequisite: upper-division standing or consent of instructor. Credit will not be granted for both German 133 and German 166.

Grimm's folktales, their social context, narrative techniques, recurring themes and characters; the literary fairytale with its various transformations of folk themes in the course of the nineteenth and twentieth centuries. Lectures and readings in English.

168. The Faust Tradition
(4) DERWIN, KITTLER, RICKELS
Prerequisite: upper-division standing or consent of instructor.

The Faust legend in literature. Emphasis on the Chapbook, Marlowe, Goethe, and Thomas Mann. Readings and lectures in English.

169. Mysticism
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

A historical overview of significant German religious mystical writing and secular literature showing the influence of mystical thought. Representative texts include medieval tracts (e.g., Meister Eckhart), romantic fiction (Novalis, E.T.A. Hoffman), and modern works (Hesse).

170. Romantic Women Writers
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Women writers from Romanticism to psychoanalysis. Rachel Varnhagen, Bettina von Arnim, Dorothea von Schlegel, D roste-Hülshoff, Sabine Spielrein and others. Lectures and readings in English.

171. The Theme of Religious Faith
(4) GOTTSCHALK
Prerequisite: upper-division standing or consent of instructor.

Comparative study of themes, styles, and structures in the shorter prose works of Kafka, Hesse, and Böll. Specifically, the problem of human isolation and of religious faith. Taught in English.

172. Hermann Hesse
(4) GOTTSCHALK
Prerequisite: upper-division standing or consent of instructor.

Introduction to Hesse, the man and the artist. Study of the themes and structures of selected works ranging from his beginnings as a writer to his receipt of the Nobel Prize. Taught in English.

172S. Proseminar on Hesse
(4) GOTTSCHALK
Prerequisites: German 172 or equivalent; consent of instructor.

Detailed analysis of Hesse's late prose; comparative studies; papers. Taught in English.

173. Epic Theater and Recent Trends in Drama
(4) MAHLENDORF
Prerequisite: upper-division standing or consent of instructor.

The German theater today: plays, playwrights, and theatrical movements from the nineteenth century to post-World War II. Readings and lectures in English.

174. Literature and Psychology in the Nineteenth and Twentieth Centuries
(4) MAHLENDORF
Prerequisite: upper-division standing or consent of instructor.

A study of selected nineteenth- and twentieth-century authors and their works from a depth-psychological perspective; e.g., Goethe, Schiller, Kleist, Mann, Hesse, Kafka, Brecht, Grass, Frisch. Lectures and readings in English.

174E. Technological Nightmares
(4) MAHLENDORF
Prerequisite: upper-division standing only. Same course as History 174E.

The promise and the terror of technological progress as reflected in literary documents of the nineteenth and twentieth centuries; e.g., Mary Wollstonecraft-Shelley's Frankenstein, Meyrink's Golem, Kaiser's Gas I, Brecht's Galileo, Durrenmatt's The Physicists, Frisch's Homo Faber. These books will be related to the social history of technology. Taught in English.

175. Genius and Madness in Literature

(4) DERWIN, RICKELS, MAHLENDORF, WEBER

Prerequisite: Upper-division standing or consent of instructor.

The treatment of creativity by German romantic and twentieth-century writers. Their theories of madness and of inspiration, their description of unusual states of consciousness, of risk, and suicide. Readings by such authors as E.T.A Hoffmann, Kleist, Mann, and Grass. Lectures and readings in English.

176. Jung Proseminar

(4) GOTTSCHALK

Prerequisite: upper-division standing or consent of instructor.

Introductory readings in Jung's writings and the application of Jungian concepts in literary analysis. Taught in English.

177. Law and Justice in Literature

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Various aspects of justice (human, divine, interpersonal, individual) and common "confrontations" over questions of law and justice (man/God, man/society, man against himself) are examined in the context of works by predominantly German authors, such as Kleist, Brecht, and Kafka. Taught in English.

178. The Prussian Tradition

(4) HOFFMEISTER

Prerequisite: upper-division standing or consent of instructor.

This course examines three interrelated problems; the legend of Prussia versus its reality; the conflict between the individual and authoritarian government; and the Prussian government system and Prussia as a state of mind. From Frederick the Great to the present; use of historical documents, political manifestoes, ideological sources, literary works, and movies. Taught in English.

179. Brecht

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Plays, poetry, and prose and their social and political framework. Lectures and readings in English.

180. Mediatechnology

(4) KITTLER

Prerequisite: upper-division standing or consent of instructor.

Telegraph, telephone, phonograph, and film are techniques that have engendered new forms of representaiton, communication, and thinking. The course will study the impact of these transformations in literature and on literature. Taught in English.

180Z. German Cinema

(4) GOTTSCHALK, MAHLENDORF, RICKELS

Prerequisite: upper-division standing or consent of instructor.

An analysis of contemporary German film, the representation of metaphors of madness, alienation, isolation, technology, and the filmmaker as social critic. The New Film and its relationship to contemporary literary trends. Taught in English.

181. Nonsense

(4) KITTLER

Prerequisite: upper-division standing or consent of instructor.

Letters supposedly confer sense. Does this mean that writing must make sense? This question arose in Dadaism and Surrealism at the beginning of the 20th century. Text by Tzara. Hausman, Schwitters, Joyce, Gomringer, and others. Taught in English.

182. Vampirism in German Literature and Beyond

(4) RICKELS

Prerequisite: upper-division standing or consent of instructor.

From the earliest eye-witness accounts of vampire attacks in ancient Rome to the novels of Stoker and Ewers, the films of Dreyer and Browning, and the interpretations of Voltaire and Freud, bloodsucking has remained, in our culture, our premier and oldest legacy.

184. Germanic Literature of the Heroic Age

(4) KITTLER

Prerequisite: upper-division standing or consent of instructor.

Major Germanic heroic narratives of the Middle Ages. Literary production from the Tribal Migrations to the thirteenth century, with special emphasis on the *Hildebrandslied*, the *Nibelungenlied*, the Dietrich cycle, *Tristan und Isolte*, and selected Eddic lays. Taught in English.

185. The Military Literary Complex

(4) KITTLER

Prerequisite: German 6 or equivalent.

Martial law and the effects of weapon technololgies on psyche and body. Taught in German.

186. Love and Society

(4) HOFFMEISTER

Prerequisite: upper-division standing or consent of instructor.

Analysis of changing relationships between men and women as a product of social conditions reflected in German literature within a European framework. Readings of treatises, poetry, plays, novels from antiquity (Tacitus) to present (Neo-Freudians). Taught in English.

188. Caspar Hauser

(4) WEBER

Prerequisites: Upper-divsion standing or consent of instructor.

The unexplained origin, life and death of Caspar Hauser. In the very short part of his life that he spent in human society, he discoverec the unknown continent of language, with its dreams. lies, and traps. Taught in English.

189A-B. Franco-German Relations

(4) A: HOFFMEISTER, B: KITTLER, WEBER

Prerequisite:upper-divsion standing or consent of instructor.

Study and analysis of Franco-German relations in cultural affairs fromthe Romans on the Rhine to the present. A. From the Romans on the Rhine to Napoleon; B, From Napoleon to 1990's. Taught in English.

190. Proseminar

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Intensive advanced seminar on topic to be determined on a quarterly basis

194. Independent Computer-Assisted Research

(1-4) GOTTSCHALK

Prerequisites: Interdisciplinary 118A-B and consent of instructor.

Undergraduates who have met certain computer proficiency requirements can work on independent projects in this course.

197. Senior Honors Project

(4-8) STAFF

Prerequisites: open to senior majors only; consent of instructor. Students must have a 3.0 overall grade-point average and a 3.5 grade-point average in the major. May be repeated twice.

An independent study course (one to three quarters) directed by a faculty member with a carefully chosen topic and bibliography which will result in a documented project or a senior thesis.

198. Readings in German

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in German. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May not be repeated.

199. Independent Studies in German

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in German. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Individual investigations in literary fields.

GRADUATE COURSES

German 201A-B or equivalent are prerequisite to all graduate courses and should therefore be taken during the first year of graduate studies. Exceptions are 216A-B-C, 217, 218, 219, 261A-B-C, 262C, 266, 278, 279A, 297, and 594C.

201A-B. Bibliography and Methods of Criticism

(2-2) LEW

A: Introduction to bibliographical and other research aids, with exercises. (S/U grading.)

B: Introductory survey of major critical methods and literary theories. (Letter grade.)

202A. Gothic

(4) STAFF

Prerequisite: German 201A-B or equivalent.

Descriptive study of the Gothic language. Conducted in English.

202B. Gothic

(4) STAFF

Prerequisites: German 201A-B or equivalent.

Historical study of Gothic; selected topics from historico-comparative Germanic linguistics. Conducted in English.

203A-B. Middle High German Literature

(4-4) KITTLER, WEBER

A: Survey of grammar; reading of simple texts.

B: Reading literary analysis of representative lyric and epic poems.

204A. Old High German

(4) STAFF

Prerequisites: German 201A-B or equivalent.

Phonology, Morphology, and Syntax of old high German; grammatical analysis and translation of selected texts.

204B. Old High German

(4) STAFF

Prerequisites: German 201A-B or equivalent.

Phonology, Morphology, and syntax of old high German; grammatical analysis and translation of selected texts.

205. 18th Century Linguistic Theory

(4) STAFF

Prerequisite: German 201A-B or equivalent.

A survey of language theories which resulted in the first grammars deveoted to contemporary English and German. Taught in English.

206. Seminar on the Picaresque

(4) HOFFMEISTER

Selections from picaresque works from both novels and plays, and authors such as Grimmelshausen, Reuter, Heine, Hauptmann, Brecht, Mann, Grass, and Böll.

207. Renaissance and Reformation

(4) HOFFMEISTER

Studies in the Italian and northern origins of the Renaissance and its transformation through Luther's Reformation; major writers in the vernacular from Ackermann to Dr. Faustus.

208A-B-C. Seminar on Seventeenth-Century Literature

(4-4-4) HOFFMEISTER

Students may take only two of the three options A, B or C.

Theory, European influences, and literary practices of the baroque poets either in (A) prose works, (B) lyrics, or (C) the drama.

209. Seminar on Eighteenth-Century Literature

(4) STAFF

Studies in the intellectual and literary-historical background, with particular reference to influences from and parallel developments in England and France. The major writers treated will be Lessing and his contemporaries.

210. Seminar in Literary Theory and Criticism

(4) STAFF

Prerequisite: consent of instructor.

Topics in literary theory to be determined on a quarterly basis.

211. Romantic Lyrics

(4) HOFFMEISTER

Poetic theory and interpretations of leading romantic poets from Novalis to Heine.

212. Introduction to Psychoanalytic Approaches to Literary Criticism

(4) MAHLENDORF

Readings of some classic and contemporary texts of psychoanalytic literary criticism from Freud to Kohut (Freud, Reik, Winnicott, Lacan, Eissler, Holland, Kohut). Aims and limitations of psychoanalytic literary criticism, practical applications to contemporary literary texts of the psychoanalytic method.

213. The Visual Arts as "Intertext:" Art and Literature from the Eighteenth to the Twentieth Century

(4) STAFF

Double talent in authors like E.T.A. Hoffmann, Goethe, Kafka, Lasker-Schüler, and others. Text as map or landscape, landscapes in painting and literature, the "Marsyas" motiv, the "Painted Word:" the role of actual letters as theme and even protagonists of painting and literature.

214. The Laws of the Tragic

(4) WEBER

Prerequisite: consent of instructor.

Analysis of aspects of the "tragic" throughout the Greek myths of Medea and Antigone in German literature and some theoretical texts on tragedy (Lessing, Hegel, Nietzsche, etc.) with a special emphasis on the questions of law, sacrifice, and death.

215. Seminar in Old High German

(4) WEBER

Prerequisite: German 201A-B or equivalent and German 204A-B.

Intensive study of a major Old High German document; introduction to paleography; preparation of critical editions; dialectology and lexicography.

216A-B-C. Computer-Assisted Research

(4-4-4) LEW

Prerequisite: graduate standing.

This course is intended to introduce and develop computer methods of research within the terms of textual and information management efforts in foreign languages and literatures. Taught in English.

217A-B-C. Computer Aided Language Teaching

(4-4-4) GOTTSCHALK, LEW

Prerequisites: A: consent of instructor. B: German 217A. C: German 217B.

Development of programs in computer assisted instruction in foreign languages, foreign language composition, as well as the humanities in general. A: Beginning. B.: Intermediate. C: Advanced. Taught in English.

218. Textual Analysis

(4) GOTTSCHALK, LEW

Prerequisite: graduate standing.

Interdisciplinary application of the computer to research in the humanities, specifically, the comparative textual analysis of German literary texts in English and other foreign languages. Taught in English.

219. Concordances

(4) GOTTSCHALK, LEW

Prerequisites: German 218 or equivalent.

Development of computer assisted concordances of literary texts using the Oxford and the Berkeley Concordance Programs. Evaluation of different types of concordances and their historical development. Taught in English.

220. History of the German Language

(4) GOTTSCHALK

Prerequisites: German 120 or equivalent.

German in its Indo-European and Germanic setting, from its historical beginnings with emphasis upon the development of a standardized Schriftsprache in the sixteenth century.

220A. E-Communication

(4) GOTTSCHALK

Prerequisites: German 216, 218, or equivalent.

The form of international electronic networking, its impact on the contemporary academy, on electronic communications, methodologies, means of resource access, publications, conferences, group discussions, classes and seminars, and on language itself. Its form, style, conventions, and teaching. Taught in English.

220B. Hypertext

(4) GOTTSCHALK

Prerequisites: German 216, 218 or equivalent.

Parallels in literature and computing: hypertext, a different form of writing and reading. Taught in English.

221A-B-C. Freud

(4-4-4) RICKELS, DERWIN, WEBER

Prerequisite: consent of instructor.

Three-course sequence: A) introduction to psychoanalytic theory and its relevance; B) psychoanalysis and literature; C) psychoanalysis and film. Topics addressed include the intersection of psychoanalysis and feminism, recent French readings of Freud, and psychoanalysis and Marxism.

222. Deconstruction

(4) DERWIN, RICKELS, WEBER

Prerequisite: consent of instructor.

"Deconstruction is one of the most controversial contemporary theoretical approaches to texts." According to Derrida, "deconstruction" exists only as deconstructions, replacing ONE solution with a multiplicity of questions, leading to other questions, and to a radically new ethics of multiplicity.

223. Heidegger and Technology

(4) KITTLER, WEBER

Prerequisite: consent of instructor

The question of being in a technical world as framed by and in Heidegger's thinking.

224. Metaphysics of Gender

(4) KITTLER

Prerequisite:consent of instructor.

The difference of gender in medical, legal, philosophical, and psychological discourse from the 18th to the 20th century.

225. Cartography

(4) KITTLER

Prerequisite: consent of instructor.

Sovereignty in the nineteenth century no longer means power to take life or let live but power, over life. Maps become instruments of power from maps of the Captain in Geothe's *Elective Affinities* to Kafka's Land Surveyor.

226A-F. Studies in the Age of Goethe

(4) HOFFMEISTER, RICKELS

May be repeated for a maximum of 20 units.

Studies with special emphasis on one of the following: A: Sturm und Drang, B: Kleist, C: Hölderlin, D: the Schlegels, E: the romantic novel, F: Lessing.

227A-B. Goethe

(4-4) STAFF

A: Reading and interpretation of works representative of one major period or aspect of Goethe's literary development.

B: Individual investigations of specialized topics related to the works of Goethe.

228. Schiller

(4) STAFF

Prerequisite: consent of instructor.

Lectures and discussions of specific topics chosen from Schiller's plays and aesthetic writing. Students present extensive oral reports.

229. Seminar on Schiller

(4) STAFF

Prerequisite: German 201A-B or equivalent.

Reading and discussion of some of Schiller's writing from a specific point of view. Extensive use of secondary sources. Students present oral reports and furnish a major paper based on their specific investigations.

230A-B-C. The Romantic Movement

(4-4-4) HOFFMEISTER

Oral or written reports and examinations in German 230A, 230B, and 230C.

A: Early German romanticism, with emphasis on theoretical premises and their literary expression.

B: Romantic writing in the period of political nationalism and Restoration.

C: Goethe and European romanticism.

231. Seminar on Romanticism

(4) STAFF

The special study of a topic chosen from, or related to, material covered in German 230A or 230B. Emphasis on recent developments in the investigation and theory of German romanticism.

232A-K. Studies in Nineteenth-Century Literature and Thought

(4) GOTTSCHALK, MAHLENDORF

May be repeated for a maximum of 36 units.

Studies in nineteenth-century literature and thought with special emphasis on one of the following major writers: A: Heine, B: Büchner, C: Stifter, D: Hebbel, E: Grillparzer, F: Keller, G: Meyer, H: Raabe, I: Fontane, J: Nietzsche, K: Schopenhauer.

233. Hölderlin

(4) KITTLER, WEBER

Prerequisite:consent of instructor.

The philosopher, poet, and prophet on the borderline of madness: readings include Hyperion, Empedokles, poems, odes, and hymns.

234. Psychiatry and Literature: 19th and 20th Century

(4) KITTLER

Prerequisite: consent of instructor.

Goethean discourse claims to be both science and poetry in one. In the 19th century the pieces fall apart: sciance splits up into a multitude of special sciences while literature becomes one medium among others.

235A-J. Studies in Twentieth-Century Literature

(4) GOTTSCHALK, MAHLENDORF, RICKELS

May be repeated for a maximum of 36 units.

Studies in twentieth-century literature with special emphasis on one of the following major writers or movements: A: Hauptmann, B: Mann, C: Rilke, D: Hofmannsthal, E: Kafka, F: Brecht, G: Benn, H: Expressionism, I: Hofmannsthal and the tragic, J: Hesse.

236. Contemporary Literature

(4) GOTTSCHALK, MAHLENDORF, RICKELS

Intensive study of particular authors, genres, literary movements, and selected topics in German literature after World War II.

237. Turn of the Century

(4) GOTTSCHALK

German literature from naturalism to expressionism.

238. Cryptology

(4) KITTLER

Prerequisite:consent of instructor.

Sercret writings have a long tradition, but with the invention of technical transmission media, the art of cryptography gains an even greater importance. Ciphers bridge the gap between words and numbers, thus leading to what we call data processing.

239. Realism

(4) DERWIN

Prerequisite: consent of instructor.

Nineteenth and twentieth-century works of realist fiction and theoretical texts of realism. Topics include the function and status of subjectivity in realism, politics of mimesis, the expressionist debate. Readings of Fontane, Raabe, Mann, Lukacs, Adorno, Brecht and others.

240A-G. Studies in the Main Literary Genres

(4) HOFFMEISTER, MAHLENDORF

May be repeated for a maximum of 24 units.

Studies in the main literary genres: A: Lyric, B: Drama, C: Novella, D: Novel, E: Essay, F: Tragedy and the tragic element, G: Comedy.

241. The Memoir

(4) DERWIN

Prerequisite: consent of instructor.

Examinatioin of the genre of the memoir tracing interplay between narrative drive to re-member or totalize lived experience and competing forces of repression, fictionalization, and distortion. Texts by Geothe, Freud, A. Frank, Canetti. Proust, Duras, and others.

242. The Frankfurt School
(4) RICKELS, DERWIN, WEBER

Prerequisite: consent of instructor.

Readings of several texts on religion, culture, philosophy, and literature with a special emphasis on the analysis of totalitarianism and antisemitism during the first half of the 20th century.

243. German Judaism in Literature and Philosophy
(4) WEBER

Prerequisite: consent of instructor.

Analysis of German 18th-, 19th-, and 20th- century texts on Judaism. the tension between being Jewish and being German has produced theoretical and literary works and cultures leading to what some have called, correctly or not, the "German-Jewish synbiosis."

261A. Advanced German Grammar
(4) GOTTSCHALK

Prerequisites: graduate standing and consent of instructor.

Systematic presentation of the more complex points of German grammar, special emphasis is on major difficulties of German syntax as encountered especially by the learner with English as the mother tongue. Intensive practice in the written application of grammar rules.

261B. Advanced Stylistics
(4) GOTTSCHALK

Prerequisites: graduate standing and consent of instructor.

The course is designed to meet, through carefully planned exercises, the needs of those who have already acquired general proficiency in the language. It aims to develop natural fluency, both in writing and speaking, through emphasizing the differences between what is merely correct and what is German. Selected short texts will be analyzed and interpreted.

261C. Translation Techniques
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

Intended to give finer feeling for German style; sense for shades of meaning; mastery of difficulties/peculiarities of syntax/phrasing. Theoretical lessons in translating, with reference to complex stylistic points. Intensive exercises in translating literary texts of various types.

262. Applied German Linguistics
(4) CHUN

Prerequisite: consent of instructor.

An introduction to the study of the German language, including a survey ofthe modern (20th century, synchronic) approaches to linguistics and their application to German, with additional emphasis on teaching articulatory phonetics, intonation, syntax, and usage in discourse.

262C. Advanced Oral Expression
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

Characteristics of German peculiar to the spoken language, such as morphology and syntax, lexicography, speech patterns, idiomatic forms, intonation, idiomatics, and dialects. Practical exercises in rhetorics, oral discourse and debate, recitation, play-acting and reading, and formal speech. Projects in selection and preparation of materials for instruction.

266. Germany Today
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

This course will focus on essential aspects of the present-day social, political, and cultural scene in the Federal Republic of Germany, e.g., the question of German identity, European and American infiltration of language and customs, the political parties, the Peace Movement, the media, student protest, and university reform.

276A German Culture in Film
(4) STAFF

Prerequisite: Graduate standing and consent of instructor.

Germany's contributions to the development of film both from an intrinsic standpoint (cinematic technique) and an extrinsic point of view (e.g. the film as a propaganda tool during the Third Reich).

276B. German Culture in Theater and Drama
(4) PFANNER

Prerequisite: graduate standing and consent of instructor.

The development of the German theater and drama from the shrovetide plays of the Middle Ages to the audience-participation plays of today with special attention tot he Neodamial plays of Geothe and Selveer and the epic theater of Brecht.

277. German Culture in Music
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

A survey and analysis of the outstanding contributions of German composers to instrumental and vocal music, opera, and music drama from medieval "Minnesang" to modern serial and electronic techniques.

278. German Culture in Fine Arts
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

An introduction to the contributions of Germans to the fine arts, treating, for example, German painting and sculpture of the fifteenth or sixteenth centuries, the romanticists, or German modernism.

279A. German Culture in Literature: 19th Century
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

Studies of major literary works by Geothe, Schiller, Heine, Grillparzer, Morike, Storm, Keller, Stifter, Fontane, and others.

279B. German Culture in Literature: 20th Century
(4) PFANNER

Prerequisites: graduate standing and consent of instructor.

Studies of major literary works by Hauptmann, Rilke, Hofmannsthal, Kafka, Thomas Mann, Brecht, Boell, Frisch, Duerrenmatt and others.

284. Highlights of German History
(4) STAFF

Prerequisites: graduate standing and consent of instructor.

Highlights of Germany's past and present, from the prehistoric migrations of Germanic tribes to the historic East-West emigration on the threshold of the twenty-first century. topics include: the three German "empires" (Hohenstaufen-Hapsburg; Hohenzollern; Hitler), diversification and dissension versus unification.

285. Literary Texts in Teaching German
(4) WEBER

Selected German poems, stories and plays will be discussed in conjunction with foreign language instruction. Teaching objectives, methods, and general questions are also treated, e.g. What does it mean for the learner to 'read' and 'understand' a literary text?

297. Laboratory for Teaching Assistants
(2-4) CHUN

Units earned in this course, which is required of all teaching assistants, do not apply toward completion of the M.A. or Ph.D. requirement.

Subject oriented, designed to relate directly to the teaching of a particular course in progress, to improve the skills and effectiveness of the department's teaching assistants.

594C. Independent Computer-Assisted Research
(1-4) STAFF

Prerequisites: graduate standing and consent of instructor.

Students who have met certain computer proficiency requirements can work independently on special computer-assisted research projects through this course.

596. Directed Reading and Research
(2-4) STAFF

Prerequisites: graduate standing; consent of instructor, graduate advisor and department chair. Letter grade only.

Individualized instruction. A written proposal must be approved by department chair, to include a description of the course content and a reading list.

597. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations
(1-12) STAFF

Prerequisites: graduate standing; consent of graduate advisor. No unit credit allowed toward advanced degree(s). Enrollment limited to 12 units per examination.

Instructor should normally be the student's major professor or chair of the doctoral committee. Enrollment must be approved by graduate advisor.

599. Ph.D. Dissertation Research and Preparation
(2-8) STAFF

Prerequisites: advancement to candidacy; consent of graduate advisor. S/U grading only.

Only for preparation of the doctoral dissertation. Instructor should be the chair of the student's Ph.D. committee.

Related Courses in Education

Education SD 390F. Curriculum and Instructional Procedures and Materials Used in the Teaching of German
(1) STAFF

Prerequisite: backround in German. The first of a three-quarter in-progress sequence for a total of 3 units. All three quarters must be taken to receive credit.

Methodology of foreign language teaching with particular emphasis in German.

Education SD 390W. Curriculum and Instructional Procedures and Materials Used in the Teaching of German
(1) STAFF

Prerequisite: Education SD 390F. The second of a three-quarter in-progress sequence for a total of 3 units. All three quarters must be taken to receive credit.

Methodology of foreign language teaching with particular emphasis in German.

Education SD 390S. Curriculum and Instructional Procedures and Materials Used in the Teaching of German
(1) STAFF

Prerequisite: Education SD 390W. The third of a three-quarter in-progress sequence for a total of 3 units. All three quarters must be completed for credit.

Methodology of foreign language teaching with particular emphasis in German.

Education SD 392. Student Teaching: German
(3-9) STAFF

Prerequisites: admission to Single Subject Credential Program and consent of instructor.

Supervised teaching at the secondary level in German.

Education SD 393. Problem Seminar: Teaching German
(1) STAFF

Prerequisite: concurrent enrollment in Education SD 392; may be repeated.

This seminar will cover problems related to student teaching.

Hebrew Courses

LOWER DIVISION

1. Elementary Hebrew

(4) SPRECHER

The beginning course in Hebrew. Starting with the study of the alphabet the student is initiated into the rudiments of the language. Basic grammar and vocabulary.

2. Elementary Hebrew

(4) SPRECHER

Prerequisite: Hebrew 1 or equivalent.

Continuation of Hebrew 1.

3. Elementary Hebrew

(4) SPRECHER

Prerequisite: Hebrew 2 or equivalent.

Continuation of Hebrew 2.

UPPER DIVISION

111. The Structure of the Hebrew Bible in Translation

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Analyses of selected passages both formally and from the point of view of content. Examination of stylistic devices, and the ideas as interpreted in their historical setting. Character analysis of some major figures. Lectures and readings in English.

112. Bible Translations

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

A comparison of selected English translations of a choice of texts from the Hebrew Bible from a stylistic and philological point of view. No knowledge of Hebrew is required.

113. Hebrew Poerty in Translation

(4) HETZRON

Prerequisite: upper-divsion standing or consent of instructor.

A survey of the periods of Hebrew poetry, from Biblical through post-Biblical, medieval, early modern, to the Israeli period. Students are expected to work on an individual project.

115A-B-C. Readings in Israeli Hebrew

(4-4-4) SPRECHER

Prerequisite: Hebrew 3 or equivalent.

Intermediate and advanced readings in Israeli Hebrew; grammar review and conversation exercises.

119. Structural Analysis of Biblical Texts

(4) STAFF

Prerequisite: Hebrew 110, 111, or equivalent. Course may be repeated for credit to a maximum of 8 units. Translations of selected passages from the Hebrew Bible are analyzed from a structural point of view: poetry, historical narratives, and other prose.

Different translations are compared, with the instructor providing information on the original Hebrew.

120A-B-C. Introductory Biblical Hebrew

(2-2-2) HETZRON

Prerequisites: Hebrew 3 or equivalent and consent of instructor.

Grammatical features of biblical Hebrew; elementary reading in the Hebrew Bible.

130. Jewish Humor

(4) HETZRON

Prerequisite: upper-division standing or consent of instructor. Taught in English.

An analysis of Jewish jokes (those based on puns excluded) from two points of view. 1) A semantic analysis of the punchline, eventually trying to figure out if there is a finite number of possibilities; 2) the reflection of ethnicity, national origin, and translatability of the jokes in the light of social structures in the countries where the language is spoken.

131. Jews in Cinema

(4) HETZRON

Prerequisite: Film Studies 46, or upper-division standing, or consent of instructor. Same course as Film Studies 131. Taught in English.

Presentation of facets of Jewish life through the eyes of filmmakers, Jewish and Gentile, philosemitic, neutral and antisemitic, from Europe, Israel, North America. Emphasis on authenticity of representation, reflection of Jewish customs, ethnic traits.

199. Independent Studies in Hebrew

(1-S) HETZRON

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Hebrew. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Russian Courses

LOWER DIVISION

1. Elementary Russian

(4) STAFF

The beginning course in Russian. The student acquires the basic structure of the language, a limited general vocabulary, correct pronunciation, and an ability to read and understand simple cultural texts. Weekly laboratory assignments support and enhance classroom learning.

1S. Introduction to Reading Russian

(4) STAFF

Russian course tailored to individual needs of students: A: Reading and writing Russian for graduate students. B: Russian grammar, with emphasis on reading and writing for beginners. C: Preparation to enter advanced course in Russian for those with previous knowledge (including high school students).

2. Elementary Russian

(4) STAFF

Prerequisite: Russian 1 or equivalent.

Continuation of Russian 1.

3. Elementary Russian

(4) STAFF

Prerequisite: Russian 2 or equivalent.

Continuation of Russian 2.

4. Intermediate Russian

(4) STAFF

Prerequisite: Russian 3 or equivalent.

Continuation of Russian 3.

5. Intermediate Russian

(4) STAFF

Prerequisite: Russian 4 or equivalent.

Continuation of Russian 4.

6. Intermediate Russian

(4) STAFF

Prerequisite: Russian 5 or equivalent.

Continuation of Russian 5.

11A-B. Russian for Graduate Students

(4-4) STAFF

The first quarter will present the elements of Russian grammar and word formation using short illustrative prose selections. The second quarter will complete the presentation of grammar and practice techniques of translating more specialized texts.

33. Russia—From Yesteryear to the Present

(4) STAFF

Survey of geographical, historical, ethnological, political, and literary background of the largest country in the world with emphasis on the milestones in each of the above-mentioned fields. Lectures in English; some slides and films. Five quizzes and a nonessay final examination.

UPPER DIVISION

101A-B-C. Advanced Russian: Third Year

(4-4-4) STAFF

Prerequisite: Russian 6 or consent of instructor.

Introduction to extensive reading of Russian prose with discussion and composition in Russian.

102. Russian Composition

(4) STAFF

Prerequisite: Russian 6 or equivalent. May be repeated once for credit.

Designed to help develop writing skills in Russian.

103. Chekhov's Short Stories

(4) STAFF

Prerequisite: Russian 6 or equivalent.

Reading and analysis of a sampling of works from Chekhov's various periods. Reading, discussion, and composition in Russian.

105. Pushkin

(4) STAFF

Prerequisite: Russian 6 or equivalent.

Reading of important works in the original; discussion and composition. Conducted in Russian.

107. The Russian Nabokov

(4) STAFF

Prerequisite: Russian 6 or equivalent.

A study of Nabokov's Russian writings with primary focus on the short stories, poetry, and plays.

108. The Russian Language: Morphology

(4) STAFF

Prerequisite: Russian 6 or equivalent.

A study of Russian word formation. Primary focus is on the verb system.

115A. Russian Literature through the Nineteenth Century

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Begins with the medieval period, traces the development of Russian literature through classicism and romanticism and into the age of realism to mid-nineteenth century. Reading and discussion in English of works by Pushkin, Lermontov, Gogol, Turgenev, and others.

115B. Russian Literature through the Nineteenth Century

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

The Russian novel and afterward: a discussion of literature and thought in the second half of the nineteenth century. Works by Dostoevsky, Chekhov, and others. Readings and lectures in English.

120. Russian Drama

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Plays from the classic, romantic, and realistic periods; Chekhov's innovative works, as well as drama representative of various trends before and after 1917. Readings and discussion in English.

121. The Russian Short Story

(4) STAFF

Prerequisite: Russian 6 or equivalent. May be repeated for 8 units total.

Analysis and discussion of various forms of the short story by Russian Writers.

122. The Russian Novella

(4) STAFF

Prerequisite: Russian 6 or equivalent. May be repeated for 8 units total.

In Russian literature the novella is a genre quite distinct from the short story and the novel. All major writers of the nineteenth and twentieth centuries created important works in this form, so that a vast field for exploration and examination exists for such a genre course.

123. Russian Poetry of the Golden Age

(4) STAFF

Prerequisite: Russian 6 or equivalent.

A study of representative works of the major nineteenth-century poets (e.g., Pushkin, Lermontov, Tyutchev, Fet, Nekrasov), with attention to each work's relationship to the history of the development of Russian poetry generally and its place in the author's career. All work to be done in Russian.

125. Twentieth-Century Russian Literature

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Avant-garde experimentation before and immediately following the Revolution, Stalin's "socialist realism," the brief "thaw" of the Krushchev years, and literature of dissent. Works by Mayakovsky, Pilnyak, Pasternak, and Solzhenitsyn, among others. Lectures and readings in English.

127. The Silver Age
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Poetry, prose, and drama of the decadents, symbolists, and post-symbolists. The aesthetic and ethical ideals of the generation following the critical realists. Works by Briusov, Balmont, Blok, Bely, Kuzmin, Akhmatova, Mandelstam, and others. Lectures and readings in English.

130. Dostoevsky
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

A study of Dostoevsky's principal novels and short stories in their historical and cultural contexts. Lectures and readings in English.

131. Tolstoy
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

A study of Tolstoy and his major novels and important shorter fiction. Lectures and readings in English.

133. Chekhov
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

A study of Chekhov's development as a writer. Analysis and discussion of his short stories, long stories, and plays. Lectures and readings in English.

134. Nabokov
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

A study of Nabokov's novels with particular attention to structure and style. The novel as parody and game playing. Lectures and readings in English.

140. Problems in Translation
(4) STAFF
Prerequisite: Russian 6 or equivalent.

Techniques of translating literary materials, both from English into Russian and from Russian into English.

150. Russian Folk Literature
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

The myths, epics, folktales, folk lyrics, and other oral forms. Lectures and readings in English.

161. Writings of Russian Dissidents
(4) STAFF
Prerequisite: upper-division standing or consent of instructor.

Survey and analysis of the literary and polemical writings of dissenters in Russia, with emphasis on the most recent period. Genres include prose, poetry, memoir, and essay by Tolstoy, Zamyatiu, Brodsky, Solzhenitsyn, Amalrik, and others. Taught in English.

194. Group Studies for Advanced Students
(1-4) STAFF
Prerequisites: upper-division standing; consent of the instructor and the department chair. May be repeated, but only 4 units may count toward the major. Enrollment limited to 12 students or less.

Designed to meet special curricular problems.

197. Senior Thesis in Russian
(4) STAFF
Prerequisites: senior standing; 3.0 grade-point average.

Selected seniors may pursue individual projects with close tutorial supervision of faculty advisors. The reading and a substantial essay to be in Russian.

198. Readings in Russian
(1-5) STAFF
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Russian. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May be repeated up to 6 units.

Guided reading on a subject not covered in the regularly offered courses.

199. Independent Studies in Russian
(1-5) STAFF
Prerequisites: student must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Russian. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

GRADUATE COURSES

294. Literary Structuralism
(4) STAFF
Prerequisite: graduate standing.

Seminar on literary structuralism. Lectures and texts in English. Theoretical orientation of the course is primarily, but not exclusively, that of Russian, Prague School, and Anglo-American structuralism. Major focus is application of structuralist analytic techniques to individual works of literature.

596. Directed Reading and Research
(2-4) STAFF
Letter grade. Minimum of 2 units per quarter. No more than half the units necessary for the master's degree may be taken in Russian 596.

Individual tutorial. A written proposal for each tutorial must be approved by department chair and filed with Graduate Division.

Scandinavian Courses

UPPER DIVISION

137. Scandinavian Folklore and Folk Tale
(4) LUNDELL
Prerequisite: upper-division standing or consent of instructor.

Scandinavian folklore and tale in translation.

138. Scandinavian Drama
(4) LUNDELL
Prerequisite: upper-division standing or consent of instructor.

Drama in Scandinavian literature in translation.

139. Scandinavian Prose
(4) LUNDELL
Prerequisite: upper-division standing or consent of instructor.

Prose in Scandinavian literature in translation.

150A-D. Great Scandinavian Writers
(4) LUNDELL
Prerequisite: upper-division standing or consent of instructor. May be repeated to a maximum of 16 units provided the letter designation is different.

One major figure will be studied each quarter. A. Isak Dinesen; B. August Strindberg, C. Par Lagerkvist, D. Hans Christian Andersen. Readings and lectures in English.

190. Special Topics in Scandinavian
(1-4) LUNDELL
Prerequisites: upper-division standing and consent of instructor. May be repeated for credit to a maximum of 12 units.

To be taken with the consent of the instructor and the departmental chair by students who have completed the Scandinavian courses regularly offered, or the equivalent, in order to go on with further, more advanced study, according to their needs and interest.

198. Readings in Scandinavian
(1-5) LUNDELL
Prerequisites: consent of instructor. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Scandinavian. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May be repeated for credit to a maximum of 12 units.

Individual readings in Scandinavian language and/or literature in the student's field of interest.

GRADUATE COURSES

503. Tools of Research in Scandinavian Literature
(2-4) LUNDELL
Prerequisites: graduate standing and consent of instructor.

Auxiliaries to the study of Scandinavian literature including poetics, advanced literary theory, textual criticism, biographical tools, and other related issues.

596. Directed Reading and Research
(2-12) LUNDELL
Prerequisite: graduate standing only. Letter grade. Minimum of 2 units per quarter. No more than half the units necessary for the master's degree may be taken in Scandinavian 596.

Individual tutorial. A written proposal for each tutorial must be approved by department chair and filed with Graduate Division.

Semitic Language Courses

UPPER DIVISION

120A-B-C. Historical Semitic Linguistics
(3-3-3) HETZRON
Prerequisite: upper-division or consent of instructor.

An introduction to the history of the Semitic languages, reconstruction of Proto-Semitic step-by-step regressively by confronting all the Semitic languages.

A: Phonemic system and phonetic development.
B: Morphology and syntax.
C: Specific problems in individual groups.

190. Special Topics in Hebrew
(3-5) HETZRON
Prerequisite: Hebrew 115C or equivalent. May be repeated for credit to a maximum of 12 units.

To be taken with the consent of the instructor and the departmental chair by students who have completed the Hebrew courses regularly offered, or the equivalent, to go on with further, more advanced study, according to their needs and interest.

199. Independent Studies in Semitic Languages
(1-5) HETZRON
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Semitic languages. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Independent investigations in literary fields.

GRADUATE COURSE

596. Directed Reading and Research
(2-4) HETZRON
Prerequisites: graduate standing only. Letter grade; minimum of 2 units per quarter.

Individual tutorial. A written proposal for each tutorial must be approved by department chair and filed with Graduate Division.

Swedish Courses

LOWER DIVISION

1. Elementary Swedish
(4) LUNDELL
Beginner's course. (F)

2. Elementary Swedish
(4) LUNDELL
Continuation of Swedish 1.

3. Elementary Swedish
(4) LUNDELL

Continuation of Swedish 2.

7A-B-C. Swedish Conversation
(2) STAFF

Prerequisites: for languge beginners only; must be taken with Swedish 10A-B-C.

Conversation courses in Swedish, including idioms, everyday situations, contemporary life, oral presentations, grammar.

10A-B-C. Beginning Swedish and Traditions.
(4-4-4) STAFF

Study of folktale, traditions, and songs in Swedish. Grammatical structure. Translation. Lectures on cultural background in English. This beginning language course is designed to be taken simultaneously with Sweish 7A-B-C (Conversation, 2 units), but can be taken separately.

UPPER DIVISION

120. Readings in Contemporary Prose Texts
(4) LUNDELL

Prerequisite: Swedish 3 or equivalent, or consent of instructor.

Readings selected from fiction and/or non-fiction according to student interest. Grammar.

194. Group Studies
(1-4) LUNDELL

Prerequisite: Swedish 3 or equivalent; may be repeated but only for a total of 12 units.

Designed to meet special curricular problems.

199. Independent Studies in Swedish
(1-5) LUNDELL

Prerequisites: consent of instructor. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Swedish. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May be repeated for credit to a maximum of 12 units.

Individual investigations in fields related to Swedish culture.

GRADUATE COURSES

501. Apprentice Teaching
(2-4) LUNDELL

Prerequisites: graduate standing, consent of instructor, and employment in this department as teaching assistant in Swedish.

This course consists of supervised teaching practice in Swedish language. These units do not count toward any graduate major.

Foreign Literature and Film Taught in English

Literature courses for which no knowledge of a foreign language is required. See course descriptions above.

German: see 108A-B, 138, 147, 160D, 161, 163, 164A-G, 165, 166, 168, 169, 170, 171, 172, 172S, 173, 174, 174E, 175, 176, 177, 178, 179, 180Z, 181, 182, 184, 186, 188, 189A-B, 194

Hebrew: see 110, 111, 119, 130, 131

Russian: see 115A-B, 120, 125, 127, 130, 131, 133, 134, 150, 161

Scandinavian: see 137, 138, 139, 150A-D

Global Peace and Security

Studies in Global Peace and Security,
Division of Social Sciences,
Ellison Hall 2606;
Telephone (805) 893-4718
Advisory Committee Chair: John A. Ernest

Advisory Committee

Lawrence Badash, Ph.D. (History)

John A. Ernest, Ph.D. (Mathematics)

Walter Kohn, Ph.D. (Physics)

Cedric J. Robinson, Ph.D. (Black Studies and Political Science)

Susan Stonich, Ph.D. (Anthropology and Environmental Studies)

Affiliated Faculty

Luc Anselin, Ph.D. (Geography)

Ciel Bergman, aka **Cheryl O. Bowers**, M.F.A. (Art Studio)

Marguerite Bouraad-Nash, Ph.D. (Political Science)

W. Richard Comstock, Ph.D. (Religious Studies)

Willis Copeland, Ph.D. (Education)

Richard Flacks, Ph.D. (Sociology)

John Foran, Ph.D. (Sociology)

José R. Fulco, Ph.D. (Physics)

David Gold, Ph.D. (Sociology)

Wolfram Hanrieder, Ph.D. (Political Science)

Tsuyoshi Hasegawa, Ph.D. (History)

Gerald Horne, Ph.D. (Black Studies)

Jacqueline A. Hynes, Ph.D. (Engineering)

Cynthia S. Kaplan, Ph.D. (Political Science)

Fernando Lopez-Alves, Ph.D. (Political Science)

Eric McFarland, Ph.D. (Chemical and Nuclear Engineering)

J. Marc McGinnes, J.D. (Environmental Studies)

Robert C. Noel, Ph.D. (Political Science)

Jati K. Sengupta, Ph.D. (Economics)

Dan K. Smith (International Students and Scholars)

Students can complement their major with an interdisciplinary selection of courses relating to international conflicts and conditions for global peace and security. These include but are not limited to political, environmental, and cultural issues. Listed below are a primary and secondary set of courses. Each student in this program will select, in consultation with a program adviser, a coherent set of at least three courses, depending on his or her major and other pertinent considerations. As a general rule, two of these must be from the primary list. Students must also enroll in Interdisciplinary Studies 197A-B, Global Peace and Security, during the winter and spring quarters.

Prospective teachers may, with the aid of the credential adviser of this program, choose a set of courses which will prepare them to deal in the classroom with the issue of global peace and security. These courses can contribute to meeting the secondary or junior college teaching credential requirements in science or social science.

Successful completion of this program is recognized by an appropriate certificate. Further information about the program may be obtained from any member of the advisory committee.

Primary Courses

Anthropology
146. Development Anthropology
Economics
114. Economic Development
180. International Trade Theory and Policy
Environmental Studies
122. World Population and Food Supply
124. Environmental Dispute Resolution
130A-B. Third World: Environments and Prospects
163A. Ecodevelopment
History
105. The Atomic Age
Physics
102. Physics and the Technology of Nuclear Conflict
Political Science
119. Ethical Issues in International Relations
121. International Politics
123. Atomic Energy and International Relations
124. International Organization
125. International Law
132. Latin America in World Affairs
147. Third World Politics
Psychology
134. Cooperation, Competition, and Conflict
Religious Studies
143. Religion, Revolution, and Peace
171. Religion, Ethics, and Technology
Sociology
130R. The Sociology of Development
134R. The Sociology of Revolutions
138. The Sociology of Conflict

Secondary Courses

Anthropology
122. Anthropology of World Systems
Economics
108. The Soviet Economy
181. International Finance
Engineering
101. Ethics in Engineering
Geography
151. Physical Geography of the Tropics
155. Geography of the Soviet Union
157. Geography of Africa
History
124E. The Balkans and the Eastern Question
126. History of Eastern Europe since 1918
128A-B-C. Twentieth-Century Europe
135C. History of Russia
171Q. Readings and Discussions on Cold War History

Political Science
120. Mass Media and World Affairs
122. Selected Problems in International Relations: Conflict in the Middle East
127. American Foreign Policy
128. Soviet Foreign Policy
129. The U.S., Russia, and Europe
130. Comparative Communist Systems
131. China in World Affairs
148A-B. Reform and Revolution in Latin America
150A-B. Politics of the Middle East
Philosophy
122. Theory of Justice
Psychology
154. Intercultural Psychology
Religious Studies
120. Religion, Ideology, and an Emerging World Culture
155. Religion and the Impact of Vietnam
172. Religion and Science
Russian
33. Russia, from Yesteryear to the Present
Sociology
125. Intercultural Studies in Community Milieux Abroad
130LA. Development and Social Change in Latin America
130ME. Development and Social Change in the Middle East
134. Social Movements

History

Department of History,
Division of Humanities and Fine Arts,
Ellison Hall 4834;
Telephone (805) 893-2991
Department Chair: J. Sears McGee

Faculty

Lawrence Badash, Ph.D., Yale University, Professor *(history of science)*

Randolph Bergstrom, Ph.D., Columbia University, Assistant Professor *(American social policy)*

F. A. Bonadio, Ph.D., Yale University, Associate Professor *(Civil War)*

Morton Borden, Ph.D., Columbia University, Professor Emeritus

W. Elliot Brownlee, Ph.D., University of Wisconsin, Professor *(American economic history)*

A. Russell Buchanan, Ph.D., Stanford University, Professor Emeritus

Alexander B. Callow, Ph.D., UC Berkeley, Lecturer Emeritus

Chi-yun Chen, Ph.D., Harvard University, Professor *(ancient China)*

Sarah Cline, Ph.D., UC Los Angeles, Professor *(Mexico, Latin America, Christianity)*

Patricia Cline Cohen, Ph.D., UC Berkeley, Professor *(women, social history)*

Robert O. Collins, Ph.D., Yale University, Professor *(Africa)*

Donald C. Davidson, Ph.D., UC Berkeley, Professor Emeritus

Alexander DeConde, Ph.D., Stanford University, Professor Emeritus

Jane S. DeHart, Ph.D., Duke University, Professor *(modern U.S., women, public policy)*

Dimitrije Djordjevic, Ph.D., University of Beograd, Professor Emeritus

Harold A. Drake, Ph.D., University of Wisconsin, Professor *(Rome)*

Francis A. Dutra, Ph.D., New York University, Associate Professor *(Brazil, Portugal)*

Mark C. Elliott, Ph.D. expected, UC Berkeley, Acting Assistant Professor *(modern Chinese history)*

Sharon Farmer, Ph.D., Harvard University, Associate Professor *(medieval Europe)*

Joshua A. Fogel, Ph.D., Columbia University, Professor *(comparative East Asian history)*

Abraham Friesen, Ph.D., Stanford University, Professor *(Reformation)*

Frank J. Frost, Ph.D., UC Los Angeles, Professor Emeritus

Nancy E. Gallagher, Ph.D., UC Los Angeles, Professor *(Middle East)*

Mario Garcia, Ph.D., UC San Diego, Professor *(Chicano history)*

Jonathan A. Glickstein, Ph.D., Yale University, Assistant Professor *(U.S. intellectual history)*

Alfred M. Gollin, D. Phil., D. Litt., Oxon., Professor *(modern Britain)*

Otis L. Graham, Jr., Ph.D., Columbia University, Professor *(20th-century U.S. history, history of public policy)*

George M. Haddad, Ph.D., University of Chicago, Professor Emeritus

Carl V. Harris, Ph.D., University of Wisconsin, Associate Professor *(American South)*

Tsuyoshi Hasegawa, Ph.D., University of Washington, Professor *(modern Russia)*

Stephen N. Hay, Ph.D., Harvard University, Professor Emeritus

C. Warren Hollister, Ph.D., UC Los Angeles, Professor *(medieval Europe)*

Immanuel C. Y. Hsu, Ph.D., Harvard University, Professor Emeritus

R. Stephen Humphreys, Ph.D., University of Michigan, King Abdul Aziz Ibn Saud Professor of Islamic Studies *(Islamic studies)*

Wilbur R. Jacobs, Ph.D., UC Los Angeles, Professor Emeritus

Lisa Kallet-Marx, Ph.D., UC Berkeley, Assistant Professor *(ancient Greece)*

Laura Kalman, Ph.D., Yale University, Professor *(20th-century U.S. legal and political history)*

Robert L. Kelley, Ph.D., Stanford University, Professor Emeritus

Harold C. Kirker, Ph.D., UC Berkeley, Professor Emeritus

Albert S. Lindemann, Ph.D., Harvard University, Professor *(modern European socialism)*

Hector Lindo-Fuentes, Ph.D., University of Chicago, Associate Professor *(Central America)*

Fredrik Logevall, Ph.D. expected, Yale University, Acting Assistant Professor *(U.S. foreign relations)*

Harold Marcuse, Ph.D., University of Michigan, Assistant Professor *(modern central / eastern European history)*

Leonard M. Marsak, Ph.D., Cornell University, Professor Emeritus

J. Sears McGee, Ph.D., Yale University, Professor *(Tudor and Stuart Britain)*

Kenneth J. Mouré, Ph.D., University of Toronto, Assistant Professor *(European economic history)*

Ann Moyer, Ph.D., University of Michigan, Assistant Professor *(Italian Renaissance history)*

Roderick W. Nash, Ph.D., University of Wisconsin, Professor *(American environmental and popular cultural history)*

Richard E. Oglesby, Ph.D., Northwestern University, Professor Emeritus

Michael A. Osborne, Ph.D., University of Wisconsin, Assistant Professor *(history of biological sciences)*

Hyung Pai, Ph.D., Harvard University, Assistant Professor *(history of Korea)*

Joachim Remak, Ph.D., Stanford University, Professor Emeritus

Luke S. Roberts, Ph.D., Princeton University, Assistant Professor *(history of Japan)*

David P. Rock, Ph.D., Cantab, Professor *(Latin America and Argentina)*

Jeffrey B. Russell, Ph.D., Emory University, Professor *(medieval Europe)*

Paul M. Sonnino, Ph.D., UC Los Angeles, Professor *(early modern Europe)*

John E. Talbott, Ph.D., Stanford University, Professor *(France, marine history)*

Zaragosa Vargas, Ph.D., University of Michigan, Associate Professor *(modern U.S., labor, and Chicano)*

Affiliated Faculty

Sucheng Chan, Ph.D. (Asian American Studies)

Douglas H. Daniels, Ph.D. (Black Studies)

Richard D. Hecht, Ph.D. (Religious Studies)

Gerald Horne, Ph.D. (Black Studies)

Robert Kallet-Marx, Ph.D. (Classics)

History is studied to enhance the quality of life for the individual. Without any knowledge of the past, the individual becomes a prisoner of the present—able neither to comprehend the present circumstances and their causes nor to deal intelligently with present problems. As a liberal discipline, history aims to permit students to transcend their own cultural limits and, by the study of other societies in other ages, to open their eyes to the diversity of the human environment. It has often been noted that history is the first truly "interdisciplinary" discipline. This is true because everything, no matter how specialized, has a history, and therefore everything is a proper subject of study for the historian. In this department, for instance, the course offerings range not only from the ancient world to modern times, but also from the history of philosophy and ideas to the history of machines and technology, from governmental elites to popular culture.

The Department of History offers two undergraduate degree programs, the Bachelor of Arts in history, and the Bachelor of Arts in the history of public policy.

The B.A. in the history of public policy, the first to be offered in American higher education, combines comparative studies in history with studies in related academic disciplines. Students are expected to acquire competence in a foreign language, in statistics and computer operations, and in research and writing skills, culminating in the preparation of a senior thesis. An internship in governmental and public affairs is strongly recommended.

The department offers the M.A. and the Ph.D. in history within two parallel curricula. One, traditional in nature, prepares students primarily, though not exclusively, for teaching careers in higher and secondary education. The second, pioneered at UC Santa Barbara, is a graduate program in public historical studies, which aims at training historians for careers not in teaching, but in the community at large, primarily as researchers and writers.

While personal enrichment is the prime reason that students choose history as a field of study, the nature of the discipline makes it highly desirable as a training ground for many professional fields. The traditional career for the history major has been in teaching, but the breadth of knowledge acquired by studying history is an advantage to those intending a career in business and government service. The stress on the development of research skills, as well as on the ability to think and write clearly, has proven to be excellent preparation for law school and for a wide variety of research and writing jobs.

After completing specific prerequisites, students with a bachelor's degree in history are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

The Department of History designates one of its members each year as principal undergraduate adviser; in addition, certain members of the department are appointed undergraduate advisers, each specializing in one of the two majors. Separate advisers are provided for M.A. and Ph.D. candidates. Publications describing both undergraduate and graduate programs are available from the department.

Education at Home Program (EHP)

In the winter quarter of 1992, the UC Riverside campus will continue the Education at Home Program (EHP), for those students with a special interest in early American history and culture. Those selected for participation in this program will spend nine weeks in Colonial Williamsburg, one week in Philadelphia, and a concluding week in Washington, D.C. This program is open to all undergraduates from any campus in the UC system. With prior approval of their graduate adviser, graduate students may also apply. Registration is conducted through the Riverside campus with students enrolling in Riverside's Department of History courses 157, 158, and 159. Special arrangements for additional independent study (maximum of 4 units) may be made with the student's major department at UCSB. For further information, brochures, or application forms, call (714) 787-3820 on the Riverside campus. Preference is given to applications received by June 30; final application deadline is November 1.

Prizes and awards

(1) The annual J. Bruce Anderson Fellowship award is endowed by the parents of Dr. Anderson; recipients must be in the Ph.D. program in history. (2) The A. Russell Buchanan Award is presented annually to the graduating senior major deemed most outstanding. (3) The Richard Kent Mayberry Prize is awarded annually to a history graduate student who has completed at least two years in the doctoral program.

Phi Alpha Theta

Membership in the Gamma Iota Chapter of Phi Alpha Theta, the national history honorary society, is open to students who have completed at least five courses in history with a grade-point average of 3.4 or better. Graduate students and faculty also belong to the organization. In addition to regular meetings on campus, the society sponsors student papers at regional and national meetings. Further information about the organization is available at the department office.

Undergraduate Program

Bachelor of Arts — History

Preparation for the major. Thirty-two lower-division units, including (1) 12 units of History 4A-B-C; (2) 12 units of History 17A-B-C; (3) 4 lower-division units in Asian, African, Latin American, or Middle Eastern history; (4) 4 lower-division units in any historical field of the student's choice.

Upper-division major. Forty units of upper-division work in history, at least 4 of which must be in proseminar courses (any course with the letter P after its number). Four units of History 195H may substitute for the proseminar requirement, but additional units earned in 195H may not be applied to the major.

The proseminar. The particular skills of the historian are the ability to define issues, to gather information pertinent to a solution, and to digest and report that information in a clear and well-conceived argument. These skills, which are summed up by the word "research," are especially cultivated in undergraduate proseminars, in which the entire term is devoted to preparing a paper on a specialized topic of research. Majors are required to take at least one such course during their career here, but students serious about developing their research and writing skills are urged to take more than one. Proseminars and their subjects may be readily identified by the letter P after their course number, and by the course title. Since most faculty offer no more than one proseminar a year and enrollment is restricted, advance planning is essential. A list of proseminars to be offered in the current year is available at the Department of History office. Once students have chosen a field for the proseminar, they should approach the faculty to determine when such a proseminar will be offered, so that they may plan their schedules well in advance.

Foreign language. Election to Phi Beta Kappa requires proficiency in one foreign language, normally demonstrated by completion of the fifth quarter or its equivalent. Students contemplating graduate study should consult their prospective graduate schools to determine whether specific languages are required.

Graduation with Distinction in History (The Undergraduate Honors Program)

The Department of History at UCSB traditionally has been committed to excellence in undergraduate education. The lower-division survey courses in American and European history, History 4 and History 17, are regularly offered with an additional 1-unit honors course for students interested in undertaking additional reading and writing assignments. Such honors "trailers" also are available for a number of other courses at the upper- and lower-division levels.

Students who have successfully completed at least two such courses, or who have completed the department's lower-division historiography course, History 6 (Introduction to History), are eligible to enroll in History 100H, Historical Writing. This is an intermediate-level departmental seminar in which major works from a variety of historical periods and regions are studied and criticized. Qualified students who have not been able to satisfy the honors prerequisite (transfer students, for instance) may petition the department's honors committee for admission to History 100H.

In their junior year, students who have successfully completed History 100H and who have maintained a grade-point average in the major of at least 3.6 will be invited to join the department's Senior Honors Seminar, History 195H, in which students pursue research on a topic of particular depth and complexity.

Students admitted into the program will enroll in History 195H for the three quarters of their senior year. History 195H may be used to satisfy the proseminar requirement for majors. However, no more than 4 units earned in this seminar may be applied to the 40 upper-division units required of all majors. In the fall quarter, honors candidates will read, write papers, and build a working bibliography for their thesis. The remaining two terms of the seminar will be devoted to independent research, conducted in consultation with the thesis adviser. At the end of spring term, students will submit three copies of the thesis to the department office. Honors graduates will be eligible for graduation with Distinction in the Major.

Bachelor of Arts—History of Public Policy

Preparation for the major. A total of 32 lower-division units in history, composed of the following: (1) History 7; (2) History 4A-B-C; (3) History 17A-B-C; (4) 4 additional units in history which must be in the history of countries or cultures outside of Europe and the United States.

Required work in cognate disciplines: 16 units (four courses) chosen from among the following, with at least one course in each of three of the disciplines indicated: Economics 1, 2, or 109; Political Science 3 or 12; Philosophy 3 or 4; Environmental Studies 11, 12, or 13; Sociology 1 or 2. (These may also satisfy the General Education requirements.)

Required work in statistics and computer operations: Computer Science 5 or Interdisciplinary 5.

Required work in foreign language: 0-20 units (i.e. completion of course 5) in a foreign language appropriate to the area of historical emphasis chosen in the major.

Upper-division major. Required work in history: 40 upper-division units including 8 units from History 148A-B and 172A-B; 24 units including 12 units in the history of one nation, continent, or period, and 12 units in the history of a contrasting nation, continent, or period (exclusive of History 148A-B and 172A-B), selected with the approval of the departmental adviser for public policy students; 8 units of History 195I (senior seminar).

Required work in cognate disciplines: 20 units, taken in one of the following related fields (inclusive of lower- and upper-division courses): economics, political science, environmental studies, philosophy, or sociology. Courses should be selected with the approval of the departmental adviser to public policy students. (Courses taken during the lower-division preparation for the major may be counted in satisfaction of this requirement.) *Note: Public policy students must secure the departmental adviser's approval for their program each quarter.*

Graduation with Distinction in History of Public Policy (The Undergraduate Honors Program)

History of public policy majors may also enroll in the Honors Program in History, described above. They will do so by fulfilling the listed requirements as to 1-unit honors courses or History 6 (Introduction to History); History 100H; and grade-point average. When invited to join the department's Senior Honors Seminar (History 195H), which runs for three quarters in the student's senior year, they will do so with the understanding that History 195H will substitute for History 195I, the required 8-unit senior thesis requirement in the history of public policy major.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—History

Admission

The M.A. degree in history is looked upon as a valuable stage on the path to the doctorate. Although it is understood that some students may choose not to continue beyond the M.A., and that others may not be permitted to do so, the aim of the program is to provide students with research training leading to the doctoral degree. Consequently, except for public history (see below), the department does not admit students solely for the purpose of obtaining a master's degree. All applicants are admitted to a single M.A./Ph.D. program.

Applicants to the graduate program in history are expected to show high potential for engaging in advanced historical research and analysis. Applicants must meet general university requirements for admission to graduate standing and must have completed an undergraduate major in history or its equivalent. Applicants may be admitted with deficiencies, but those deficiencies must be made up in the first year and do not count in satisfaction of graduate degree unit or course requirements.

Applicants must submit a suitable sample of historical writing, such as a term paper or equivalent, and three letters of recommendation. These should address the applicant's academic qualifications for graduate work in history. In addition, applicants ordinarily are expected to have a minimum grade-point average of 3.5 in upper-division history courses (or 3.75 in master's courses), and minimum scores on the Graduate Record Examination (GRE) of 85th percentile in verbal and 70th percentile in either quantitative or analytical. Applications for the fall, winter, and spring quarters must be received by January 1.

It should be stressed that admission to the program is competitive, and satisfying these minimum requirements does not, by itself, guarantee admission. At the same time, the decision to admit is based on consideration of the entire file, and promising applicants in unusual circumstances whose records fall below the minimum should not be discouraged from applying.

Applicants must be accepted by a major professor with whom they wish to work. Applicants unsure of how to choose a major professor should inquire by letter or telephone to the graduate program assistant, Department of History, as to how to proceed. No student will be admitted without a faculty sponsor.

Degree Requirements

The M.A. degree will be awarded to students who satisfy the requirements prescribed by the Graduate Council and who, in addition, meet the following requirements:

Foreign language. The student must pass a written translation examination in at least one foreign language before taking the last of the comprehensive examinations.

Unit requirements. The student must pass a minimum of 36 units of upper-division and graduate history courses. No course will count for the degree if the grade is less than 3.0. At least 20 of these units must be in graduate courses numbered between 200 and 292, with 4 units of History 202 or 209 (required of all students who have not had a graduate course in historiography) and at least 16 units in research seminars, which will result in the preparation of an original research paper. Papers produced in these seminars lay the foundation for doctoral work and are taken into account along with the results of the comprehensive examinations in evaluating students for admission to the Ph.D. program. History 596 does not apply to the research seminar unit requirement, but 8 units will apply toward the 36-unit requirement. Most research seminars last two quarters. Check with the graduate program assistant for credited seminars.

Comprehensive examinations. The student must pass two three-hour written examinations in any two of the graduate fields listed below. The department offers reading courses in many of these fields to help students prepare for these examinations. History 200 courses are designed to cover large, general fields; History 201 courses cover more specialized fields.

Colonial United States to 1865*
United States since 1840*
Colonial Latin America
National Latin America
East Asia to 1600
East Asia after 1600
Africa
History of Science
Early Modern Europe (1450-1815)
Modern Europe (1789-)
Medieval Europe
Middle East (600-1700)
Middle East (1700-)
Ancient Mediterranean World
History of Public Policy

*An Afro-American, Chicano, or American Indian emphasis is acceptable in this field.

The department also offers a master of arts degree in public historical studies. (See below under Graduate Program in Public Historical Studies.)

Doctor of Philosophy—History

Admission

The M.A. degree in history or a cognate field is normally required for admission into the Ph.D. program. Applicants who do not meet this requirement must complete the M.A. in history before continuing to the Ph.D. The application deadline for those applying with an M.A. degree from another institution is January 1. Students taking the master's examinations at UC Santa Barbara must achieve an average grade of B+ on the examinations, with at least one grade of A- or higher. In addition, the candidate must acquire a minimum of three satisfactory recommendations from professors within the department, including at least two from professors who have supervised or reviewed the candidate's graduate seminar research papers.

The General Fields of History

The Department of History at UCSB offers doctoral study in eleven general fields of history:

United States
Latin America
East Asia
Africa
The Middle East
History of Science
Ancient Mediterranean World
Medieval Europe
Early Modern Europe (1450-1815)
Modern Europe (1789-)
History of Public Policy

Students will study, and in due time present themselves for examination, in four examination fields, two of them chosen from one of the above general fields, and the third chosen from a second general field. The fourth examination field will be in an outside academic department (see below, under "General Examinations"). The four professors under whom the students study as they prepare for their examinations constitute their doctoral committee. One of its members is the student's major professor, who presides.

Program Supervision

Once admitted to the Ph.D. level, each student will be systematically advised by his or her major professor, who will submit a review of the student's progress and prospects annually in the spring quarter. The results of the annual review will be individually communicated to the student in writing by the director of graduate studies. If the student's progress is unsatisfactory, the student will be notified in this letter that he or she is being placed on a one-year probationary status. If at the end of that year progress is still unsatisfactory, the department chair will recommend to the dean of the Graduate Division that the student be dismissed from graduate study.

Degree Requirements

Unit requirements. Students in the doctoral program must enroll for at least six regular academic quarters (not summer sessions) on the UCSB campus pursuing a program of full-time study and research. Three consecutive quarters of this residency must be completed in regular session before advancement to candidacy. Students must complete 32 units of history research seminars, 16 units of which can taken from the M.A. requirements. Check with the graduate program assistant for credited seminars. History 596 does not count as a research seminar. Students must take at least one graduate course in each of the four areas presented for examination (research seminars and courses taken while in the M.A. program satisfy this requirement), and a graduate course in historiography (History 202 or 209) if such a course has not been taken prior to admission to the doctoral program. Doctoral students in American history must take History 292A-B-C, in addition to the 32 units of research seminars.

Foreign language. The student must pass at least one foreign language examination, a requirement which may be satisfied by passing the foreign language examination for the UC Santa Barbara M.A. in history, or, with the approval of the graduate committee, an examination at another institution. Additional language requirements pertinent to the field of research may be specified by the major professor with the approval of the graduate committee. Preparation and supervision of these additional language examinations are the responsibility of the major professor, who may or may not use the regular departmental foreign language examinations.

Students should plan to satisfy the departmental foreign language requirement as soon as possible, but in no case later than the end of the second year in the doctoral program. No student will be allowed to take the general examinations for the Ph.D. without having completed the departmental language requirement, as well as any additional language requirements required by the major professor.

General examinations. Upon satisfying the unit and foreign language requirements, students will be eligible to take their general examinations. Candidates are required to present themselves for examination in four fields of study—three within the department and a fourth in a cognate field outside the department. Examinations in the three history fields will be both written and oral; the examination in the cognate field will only be oral. The four fields are:

1. **The major field**, taken under the student's major professor. It will be in that professor's special field, or, with the approval of the graduate committee, in a closely related field. The major field ordinarily provides the intellectual basis for the dissertation and the student's later emphasis in teaching and research, and the student is expected to achieve depth and breadth of scholarly sophistication and mastery in this field.
2. **The general field** is the field within which the student's major field is located (e.g. U.S. history is the general field if the major field is U.S. diplomatic history). The student is expected to show breadth and perspective in this field in order to set his or her specialty within its encompassing framework and to be able to teach survey courses.
3. **The outside field in history**, chosen from a second of the department's graduate fields (see above). This field may be either specialized (as in 1 above) or general (as in 2), depending on the mutual decision of the student, the major professor, and the supervisor of the outside field. This requirement affords the student, for comparative purposes, a deep encounter with the history of a period or culture distinct from that studied in Fields 1 and 2 and also to enable him or her to offer survey courses in this field.
4. **A cognate field** outside the discipline of history is chosen from within another academic department. This field should strengthen the student's grasp of Field 1 and be comparable in depth and richness to Fields 2 and 3.

Doctoral students should select their four fields in consultation with their major professor during their first quarter of study.

The three written examinations in history must all be completed within a period of one month from the date of the first examination. Each of these examinations will be of three hours' duration. Within one week of passing the last of these examinations, the student must take an oral examination in all four fields. The minimum time allotted to this examination is two hours, but the time period may be extended as warranted by the four examiners.

A student achieving outstanding records on both the written and oral examinations may be accorded a "Pass" or a "Pass With Distinction" grade by vote of the doctoral committee members. The letter grade will be assigned after all senate members present at the oral examination have been able to offer advice and commentary.

The doctoral dissertation. The doctoral dissertation must be an original work of historical research in the field of the candidate's specialization. It must be in clear prose, have intellectual depth, and demonstrate a mastery of historical methodology. It is recommended that a dissertation prospectus be prepared by the student as near to the outset of research as practical, and that this prospectus be approved by the major professor and the examination committee, which will serve as the dissertation committee. When the dissertation is approved, the candidate may be asked to appear for an oral examination in the field of the dissertation.

Teaching assistantship. A candidate will be required to qualify for and (subject to the availability of funds) to hold a teaching assistantship or a research assistantship as part of the preparation for the Ph.D. degree.

Graduate Program in Public Historical Studies

The Department of History has established within its graduate program a public history emphasis at the master's and doctoral levels. This unique offering trains professional historians to serve as research historians working within the community at large, rather than in academic institutions. Either as persons in various types of private practice, or on the staffs of public agencies—as in city, county, state, and federal governments—public historians will research and write historical studies of problems of concern to particular communities or political jurisdictions; aid them in recapturing and in recording and understanding their histories as communities and as organizations; and serve in a variety of other professional employments, such as giving testimony in court proceedings, preparing family histories, preparing environmental impact statements, conducting surveys of historic properties and other cultural resources, and working in historical agencies.

Students will specialize in: (1) the history of policy; (2) community history; or (3) cultural resources management. Courses are also available in such fields as environmental history, legal history, the history of architecture, and others. An internship is required.

For further information, request from the Department of History a copy of the public historical studies brochure, which describes curriculum and other aspects of the program in detail.

History Courses

LOWER DIVISION

1 AA-ZZ. Freshman Seminar in History

(2) STAFF

Prerequisites: lower-division standing. Repeat credit up to 6 units provided letter designations are different.

A seminar for lower-division students with an interest in history. Content will vary with instructor.

4A-B-C. Western Civilization

(4-4-4) STAFF

A: Prehistory to A.D. 1050

B: 1050 to 1715.

C: 1715 to present.

History 4A-B-C is a general survey course, designed to acquaint the student with major developments that have influenced the course of western civilization since the earliest times. These developments are as likely to be in religion, the arts, and sciences as in the more traditional political field. Weekly discussion sections are an important feature of this course, enabling the student to develop and expand

The establishment of heliocentric astronomy and mechanical philosophy by Galileo, Newton, and others, the creation of scientific societies and periodicals, the rise of chemical and electrical sciences, the influence of science upon the Enlightenment, physical science survey in eighteenth and nineteenth centuries.

106C. Modern Physical Science 1875 to Present

(4) BADASH

Prerequisite: History 4C, or any lower-division science course, or upper-division standing.

The second Scientific Revolution, including the discoveries of x-rays, radioactivity, the electron, relativity, and quantum theory; the growth of atomic and nuclear physics and of quantum mechanics; aspects of astronomy, chemistry, Nazi science, scholars' migration, and discovery of nuclear fission.

106D. U.S. Science Policy

(4) BADASH

From the time governments first funded scientific projects they had, consciously or not, a science policy. What were the reasons for these expenditures? Topics covered range from the lewis and Clark Expedition to contemporary medical, environmental, space, and defense research.

107A. History of the Biological Sciences: Antiquity to circa 1600

(4) OSBORNE

Prerequisite: History 4A or 4B or equivalent.

The work of Aristotle, Hippocrates, and Galen; bestiaries, herbals, medicines, anatomy, to the time of Vesalius.

107B. History of the Biological Sciences: circa 1600 to 1800

(4) OSBORNE

Prerequisite: History 4B or consent of instructor.

Harvey and the circulation of blood, Descartes on animals, microscopy, natural history, botany, morphology, animism, vitalism, to Buffon on cosmogony and cosmology.

107C. History of the Biological Sciences: circa 1800 to the present

(4) OSBORNE

Prerequisite: History 4C or consent of instructor.

The work of Cuvier and Lamarck, natural theology, geology, Darwin, evolution, natural selection, genetics, heredity, variation, modern synthesis, reductionism, population ecology, molecular biology.

107E. History of Animal Experimentation

(4) STAFF

Prerequisites: upper-division standing or consent of instructor.

Period: antiquity to ca. 1970. Topics include: the nature of experiment; its role in various research programs; social and cultural context; the moral status of animals; the ethics of animal experimentation; popular and scientific opposition.

107P. Proseminar on Darwinism and its Social Implications

(4) OSBORNE

Prerequisites: upper-division standing and consent of instructor.

Evolution, natural selection, religion, teleology, Social Darwinism, using the writings of Charles Darwin, Karl Marx, Herbert Spencer, and William Graham Sumner.

107PE. History of Global Environmental Problems

(4) OSBORNE

Prerequisites: Upper division standing or consent of the instructor or one of the following: History 106C, History 109B, History 107C, History 105. Same course as Environmental Studies 107.

Students produce and present to the group a research paper on a topic of their choice on the history of environmental problems of global import.

108P. Special Studies in the Comparative History of the Americas

(4) DUTRA

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

A weekly seminar on the comparative history of the Americas. A research paper will be required.

109A. History of Medicine and Social Welfare in the West: Antiquity to Circa 1750

(4) OSBORNE

Prerequisite: History 4A or 4B or equivalent.

Galenic and Hippocratic systems, concepts of charity and hospitality, plagues, anatomy, medical illustration, circulation of blood, classification of diseases.

109B. History of Medicine and Social Welfare in the West: Circa 1750 to the Present

(4) OSBORNE

Prerequisite: History 4B or consent of instructor.

Rise of surgery, the clinic, the modern hospital, diseases of poverty and occupation, asepsis and antisepsis, sanitary engineering, bacterial revolution, biological medicine, penicillin, TB, influenza, state support and regulation of medicine, organ transplantation, medical-ethical issues.

110. Social History of Medicine

(4) GALLAGHER

Prerequisite: upper-division standing.

Course themes include the development of medicine and health care in the United States, women and the medical profession, alternate medical systems, and current crises in medical policy.

110D. Diseases in History

(4) GALLAGHER

Prerequisite: upper-division standing or consent of instructor.

A study of the importance of communicable diseases in human history from prehistoric times to the present.

110P. Proseminar on Science and Imperialism

(4) OSBORNE

Prerequisites: upper-division standing and consent of instructor. May be repeated to a maximum of 8 units.

Strategies for development in the French and British Empires of the nineteenth and twentieth centuries, primarily in Africa and around the Pacific Rim. Scientific development, "scientific colonialism," cultural imperialism.

110Q. Seminar in Medical History

(4) GALLAGHER

Prerequisite: History 110 (may be taken concurrently).

Topics in Asian, African, European, and American medical systems focusing on their historical evolution in the nineteenth and twentieth centuries.

111A-B. History of Greece

(4-4) KALLET-MARX

Prerequisite: History 4A or upper-division standing.

A: From Neolithic times to Alexander the Great. (Usually offered annually in the winter.)

B: From the death of Alexander to the reign of Justinian. (Usually offered annually in spring.)

111P. Poseminar in Greek History

(4) KALLET-MARX

Prerequisite: one quarter of either History 111A-B or 113A-B. May be repeated for credit to a maximum of 8 units.

Research seminar in ancient history. A research paper will be required.

112A. The Ancient Aegean

(4) KALLET-MARX

Prerequisite: History 4A, or Anthropology 3, or upper-division standing.

Prehistory and archaeology of the early Aegean littoral, from Mycenae to the Lyric Age.

112F. Women in the Ancient Greek World

(4) KALLET-MARX

Prerequisite: History 4A or upper-division standing.

A history of the evolving roles of women in Greek society, from the Bronze Age to Hellenistic and Roman times, as portrayed by literature, archaeology, and the fine arts.

113A-B. Roman History

(4-4) DRAKE

Prerequisite: History 4A or upper-division standing.

A: From Neolithic times to the fall of the Republic.

B: The Roman Empire.

113P. Proseminar in Roman History

(4) DRAKE

Prerequisite: one quarter of History 113A-B or consent of instructor. May be repeated for credit to a maximum of 8 units.

Students produce a research paper on a topic of their choice in the history of either the Republic or Empire. From time to time, a seminar might be devoted to aspects of a particular topic.

114A-B. History of Christianity

(4-4) RUSSELL, FRIESEN

Prerequisites: any two quarters of History 4A-B-C. Upper-division students only.

A: Beginning to 800.

B: 800 to 1300.

114C-D. History of Christianity

(4-4) RUSSELL, FRIESEN

Prerequisites: any two quarters of History 4A-B-C.

C: 1300 to 1648.

D: 1648 to present.

114P. Proseminar in the History of Christianity

(4) RUSSELL

Prerequisites: History 4A and 114A. May be repeated for a maximum of 8 units

History of Christian spirituality from Augustine (fifth century) to Traherne (seventh century).

115. The Fall of Rome and the Birth of Europe: 300 to 1050

(4) HOLLISTER

Prerequisite: History 4A.

The political, economic, and cultural evolution of Europe from the time of Constantine to the mid-eleventh century.

115P. Proseminar in Medieval History

(4) HOLLISTER

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

Seminar which trains students in the methods of historical research. A research paper will be written on a topic within the general area of medieval European history.

115Q. Special Studies in Medieval European History

(1-4) HOLLISTER

Prerequisite: History 115 or 116 or consent of instructor. May be taken more than once.

Study of specified topics in medieval European history. A research paper will be required.

116. The Civilization of the High Middle Ages: 1050 to 1350

(4) HOLLISTER

Prerequisite: History 4B.

European civilization during the high Middle Ages. The struggle between church and state, the rise of feudal monarchies, the revival of commerce, and the flowering of medieval culture.

117A. Towns, Trade, and Urban Culture in the Middle Ages

(4) FARMER

Prerequisite: History 4A or 4B.

The social and cultural history of medieval towns from the sixth through the sixteenth century: Roman survivals; dark age "commerce;" transition from "gift" to money economy; social unrest; the emergence of urban classes and urban culture.

117B. Peasants and Lords: The Rural History of the Middle Ages

(4) FARMER

Prerequisite: History 4A or 4B.

Social and cultural history of medieval countryside: transition from slavery to serfdom; formation of knightly class; emergence of the manorial and open field systems; social and demographic crises of the later middle ages; rural culture and religion.

117C. Women, the Family, and Sexuality in the Middle Ages

(4) FARMER

Prerequisite: History 4A or History 4B. Students who have received credit for History 117 may not take this course for credit.

Course focuses on family structure; perceptions upon material presented during the lecture hour. (Offered annually in fall-winter-spring sequence.)

4AH-4BH-4CH. Western Civilization
(1-1-1) STAFF

Prerequisites: concurrent registration in History 4A, B, or C, and consent of instructor.

After History 4A-B-C begins, selected students will be invited to enroll in the honors seminar. Such students will receive 1 unit for the honors seminars (4H) or a total of 5 units for History 4 per quarter.

6. Historical Reasoning
(4) STAFF

Prerequisites: at least one term of lower-division history and consent of instructor.

Introduction to the development of the history profession, with special attention to the methods and goals of historical research. To develop criteria for judging the value of historical scholarship. Strongly recommended for students considering the Honors Program in History.

7. Great Issues in the History of Public Policy
(4) KELLEY

Broad exploration of great issues in the history of public policy from ancient times to the present, to understand basic ways in which societies make their major decisions, the shared dynamics in the process, and how varied settings affect it.

7H. Great Issues in the History of Public Policy - Honors
(1) STAFF

Prerequisite: concurrent enrollment in History 7 and consent of instructor.

Students will receive 1 unit for the honors seminar (7H) or a total of 5 units for History 7.

8. Introduction to History of Latin America
(4) STAFF

The course will deal with major issues in Latin America's historical formation: pre-Hispanic cultures, the Spanish conquest, the role of colonial institutions, the development of trade, eighteenth-century reform, independence, the formation of nations; and identify major issues in current Latin American affairs.

9A-B. Comparative History of the Americas
(4-4) STAFF

A: A comparative study of expansion, race relations, society, culture, economy, religion, and government in the western hemisphere, 1492 to 1808.

B: A comparative study of revolutions, reform, reaction, minorities, economic growth, imperialism, government, and intellectual developments in the western hemisphere, nineteenth and twentieth centuries.

10. Introduction to Chicano History
(4) STAFF

Prerequisite: lower-division standing. Same course as Chicano Studies 10.

The historical heritage of the Chicano from Indian and Spanish origins to the contemporary period. Particular stress will be placed on the interpretation and analysis between key periods in world and U.S. history to the experience of Chicanos.

11. Introduction to Race and Ethnicity in American History
(4) BONADIO

Prerequisite: lower-division standing.

An introduction to the issues of race and ethnicity as they have affected the course of United States history from the colonial era to the present. Race and ethnicity will be dealt with as ideological issues as well as the history of particular race and ethnic groups in a pluralistic America.

12. Greeks and Barbarians
(4) KALLET-MARX

Prerequisite: lower-division standing.

The story of the first great conflict between East and West, as told by the father of history, Herodotus. (Offered irregularly.)

13. The Ides of March
(4) DRAKE

Causes and consequences of the most famous date in Roman history, explored through literature, film, and ancient sources. (Offered periodically.)

17A-B-C. The American People
(4-4-4) STAFF

A: Colonial through Jacksonian era.

B: Sectional crisis through progressivism.

C: World War I to the present.

A survey of the leading issues in American life from colonial times to the present. The course focuses on politics, cultural development, social conflict, economic life, foreign policy, and influential ideas. Features discussion sections. (Offered annually in fall-winter-spring sequence.)

17AH-17BH-17CH. The American People
(1-1-1) STAFF

Prerequisite: concurrent enrollment in History 17A, B, or C.

After History 17 begins, selected students will be invited to enroll in the honors seminar. Such students will receive 1 unit for the honors seminar (17H) or a total of 5 units for History 17 per quarter.

19. The Rise of the People's Republic of China
(4) STAFF

Examination of domestic and foreign factors leading to the rise of the People's Republic of China. The role of the United States will be stressed. (Offered periodically.)

46. Survey of Middle Eastern History
(4) GALLAGHER

Course themes include rise of Islam, development of Islamic civilization, the western impact, and current struggles and conflicts.

49. Survey of African History
(4) STAFF

A comprehensive survey of the history of Africa below the Sahara, from pre-colonial times to the present. Basic concepts necessary for the study of African history on the advanced level will be introduced and explained.

72. The Modern American Mind
(4) KELLEY

An exploration of leading currents in modern thought. Particular attention to William James, Sigmund Freud, Erik Eriksen, and to such broad social movements as the youth culture, social prejudice, and the impact of science.

72H. The Modern American Mind: Honors Seminar
(1) KELLEY

Prerequisite: concurrent enrollment in History 72.

After History 72 begins, selected students will be invited to enroll in the honors seminar. Such students will receive 1 unit for the honors seminar (72H), or a total of 5 units, with History 72.

78. The City in American History
(4) CALLOW

A chronological and topical survey of the American city from the colonial period to the present.

80. East Asian Civilization
(4) FOGEL

A basic introduction to the history of East Asia, focusing on the emergence and evolution of Chinese civilization and its impact upon the distinctive indigenous cultures of Japan, Korea and Vietnam.

80G. Introduction to East Asian Archaeology
(4) PAI

Same course as Asian Studies 80G.

The archeology of China, Korea, and Japan from prehistory to the first states. Excavated remains of neolithic villages, royal tombs, religious monuments, art and artifacts, traditions of pottery and bronze-making are presented. It focuses on cross-cultural comparisons of the rise of civilizations and states.

80K. Traditional Korean Civilization
(4) PAI

Same course as Asian Studies 80K.

Explores the various features of Korean civilization: geography, history, economy, demography, institutions, society, religious and intellectual developments, and aesthetic achievements. These aspects are also compared to broader historical and societal patterns of East Asian civilizations of China and Japan.

83. Inner Asian Civilizations
(4) PAI

Same course as Asian Studies 83.

The history, culture, and society of the nomadic peoples of Inner Asia (Soviet Union, Tibet, Afghanistan, and Mongolia). Topics include the rise of nomadism, the Silk Road, warfare, trade, and the interaction between Steppe empires and sedentary civilizations of Asia.

86. China's Cultural Tradition
(4) CHEN

A brief survey of China's magnificent cultural achievements in the past, and a study of how the great tradition became an impediment to revolutionary changes and in what way it still shapes the course of the present revolution.

90. Japanese History through Art and Literature
(4) ROBERTS

A basic introduction to the history of Japanese culture from its origins to the present day, with particular emphasis on the evidence of architecture and painting (presented through audiovisual modules). Selected examples of fiction and poetry will also be used. (Normally offered every year.)

UPPER DIVISION

100H. Historical Writing
(4) STAFF

Prerequisite: at least 2 units of "H" credit, or History 6, or consent of department honors committee.

An intermediate-level honors seminar in which students read and critique major primary and secondary works from a variety of periods and regions.

103. European Historiography
(4) FRIESEN

Prerequisites: History 4A-B-C.

The study of the development of history as an independent discipline and the influence of intellectual and other trends or events upon the interpretation of history from the Greeks to the moderns.

105. The Atomic Age
(4) BADASH

Prerequisite: any lower-division history course or upper-division standing.

The history of military uses of nuclear energy and the attendant problems. Topics included: Manhattan Project, decision to use the bomb, legislation, AEC, arms race, testing, fallout, civil defense, disarmament efforts, foreign programs, espionage.

105P. Proseminar in Atomic Age Problems
(4) BADASH

Prerequisite: upper-division standing or consent of instructor. History 105 or 106C recommended. Not restricted to history majors. May be repeated for credit to a maximum of 8 units.

Seminar, with research paper, on relationship between science and technology and society. Topics, one each course, will include Hiroshima and Nagasaki, Arms Race, arms control, science and social responsibility, politics of science, scientific advice to government, civilian uses of nuclear energy.

106A. The Origins of Western Physical Science, Antiquity to 1600
(4) BADASH

Prerequisite: History 4A or 4B, or any lower-division science course, or upper-division standing.

The development of astronomy, physics, chemistry, and the organization of science, traced from Babylonian times through the Greek, Roman, Islamic periods, and the Middle Ages in the West, to the scientific renaissance. Emphasis on the growth of scientific ideas.

106B. The Scientific Revolution, 1600 to 1875
(4) BADASH

Prerequisite: History 4B or 4C, or any lower-division science course, or upper-division standing.

and ideals of intimate and familial relations; status, perceptions, and experiences of women in western Europe c. 400-1400 A.D. Special attention will be given to social, political, and religious contexts.

117P. Proseminar on Medieval Social History

(4) STAFF

Prerequisite: History 117A, 117B, or 117C.

Undergraduate research seminar on selected topics in medieval social history.

118. Varieties of Utopianism and Social Reform from Joachim of Fiore to Karl Marx

(4) FRIESEN

Prerequisite: History 4B.

A study of the varieties of utopian thought from Joachim of Fiore (1200) to Karl Marx (1848) and the relevance of this thought to social reform.

119. The Crusades and the Near East, 1095-1291

(4) HUMPHREYS

Prerequisite: upper-division standing.

Survey of the Crusades from their origins to the fall of Acre in 1291; ideology of the Crusading movement; history and institutions of the crusader states in the Near East; Muslim responses, ideological and political, to the Crusader presence.

119Q. Topics in History of the Crusades

(4) HUMPHREYS

Prerequisites: upper-division standing. Previous course on Medieval Europe or the Middle East.

Topics on the period of the Crusades. These will vary from year to year: e.g., the idea of holy war and jihad, the development of Mediterranean commerce; cultural contact between Islam and Christendom. Term paper required.

121D-E. Europe in the Age of the Renaissance: 1300-1500

(4-4) MOYER

Prerequisite: History 4B.

The political, economic, social and cultural evolution of Europe, 1300-1500.

122A-B. Europe in the Age of the Reformation: 1500-1648

(4-4) FRIESEN

Prerequisite: History 4B.

The political, economic, social, and cultural evolution of Europe, 1500-1648.

122P. Proseminar in Reformation Europe

(4) FRIESEN

Prerequisite: History 122A or 122B.

Seminar on the political, economic, social, and cultural evolution of Europe, 1500-1648. A research paper will be required.

123A-B. History of Europe in the Nineteenth and Twentieth Centuries

(4-4) STAFF

Prerequisites: History 4A-B-C, or equivalent. History 123A is prerequisite to History 123B.

European civilization in the nineteenth and twentieth centuries; interrelationships of the centuries and of Europe to the world.

123Q. George Orwell's Europe, 1920 to 1950

(4) TALBOTT

Prerequisite: History 4C.

A study of the author of *1984* and his writings on urban poverty, popular culture, the Great Depression, imperialism, the Spanish civil war, totalitarianism.

125A-B. Intellectual History of Modern Europe

(4-4) STAFF

Prerequisites: History 4C or 101A-B.

Scientific ideas and ethical systems of thought in France, Britain, and Germany. Topics include the metaphysics and ethical values of modern science, sovereignty, the idea of progress, bourgeois liberalism, socialism, and secular humanism.

126. History of Eastern Europe Since 1918

(4) STAFF

Prerequisite: History 4C.

A political, social, and economic history of southeastern Europe—especially of the successor states to the Hapsburg monarchy of Czechoslovakia, Hungary, Poland, Rumania, and Yugoslavia—from 1918 to the present.

127. History of Modern European Socialism

(4) LINDEMANN

Prerequisite: History 4C or consent of instructor.

A survey of the history of European socialism: from the Utopian socialists to the present day; special emphasis on Marxism, Leninism, Stalinism, but also on the evolution of democratic socialism.

127L. The Eastward Advance of Capitalism and Socialism 1815-1919

(4) STAFF

Prerequisite: any quarter of history 4A-B-C, or upper-division standing.

The eastward movement of technologies and ideologies that transformed rural Europe into an industrial society. The dichotomy of backwardness and progress, reflected in the development of the European core and its peripheries, influenced the greatest transformation in human history.

127P. Proseminar in the History of Modern European Socialism

(4) STAFF

Prerequisites: History 4C, 127.

Research seminar in the history of modern European socialism.

128A-B-C. Twentieth-Century Europe

(4-4-4) LINDEMANN, MOURÉ

Prerequisite: History 4C

A survey of European history from 1900 to the present.

128P. Proseminar in Twentieth-Century Europe

(4) STAFF

Prerequisite: History 128A or 128B. May be repeated for credit to a maximum of 8 units.

Special topics in European history from World War I to present.

129A-B-C. Europe in the Seventeenth Century

(4-4-4) SONNINO

Prerequisite: History 4B or upper-division standing.

Economic, social, political, and intellectual history of the seventeenth century.

129D-E-F. Europe in the Eighteenth Century

(4-4-4) STAFF

Prerequisite: History 4C or upper-division standing.

Economic, social, political, and intellectual history of the eighteenth century. D: 1715 to 1763. E: 1763 to 1789. F: 1789 to 1815.

130A. European Economic History, 800–1750

(4) MOURÉ

Prerequisite: History 4B.

The evolution of the European economy from its decline into subsistence agriculture through the revival and growth of trade and industry, the formation of nation states, and the extension of European power overseas, to the eve of the Industrial Revolution.

130B. The Industrialization of Europe, 1750–1914

(4) MOURÉ

Prerequisite: History 4C.

Surveys the industrialization of Europe, examining the Industrial Revolution in England and the spread of industry on the European continent in the nineteenth century, with emphasis on differing patterns and dynamics of national economic growth.

130C. Twentieth-Century European Economic History, 1914 to the Present

(4) MOURÉ

Prerequisite: History 4C.

The evolution of the European economy from the first world war, through the inter-war years of hyperinflation and depression, to the reconstruction of Europe after 1945 and the formation and development of the European Economic Community.

130P. Proseminar in European Economic History

(4) MOURÉ

Prerequisite: History 130A or 130B. Course may be repeated for credit up to a maximum of 8 units.

A research seminar for students who have completed one other quarter of History 130, and wish to undertake a research project on some aspect of European economic development in the nineteenth or twentieth century.

130Y. Economy and State in the Twentieth Century

(4) BROWNLEE

Prerequisite: upper-division standing.

Compares the development of national economic and social policy in Europe, the United States, the Soviet Union, and Japan since 1900.

131F. Anti-Semite and Jew in Modern Europe and America, 1870 to Present

(4) LINDEMANN

Prerequisite: History 4C.

A study of modern anti-Semitism, beginning with the appearance of political anti-Semitism in Germany and Austria-Hungary; the Dreyfus Affair; Jewish patriots and revolutionaries; Nazism and the Jews; Zionism; anti-Semitism since WW II.

131P. Proseminar in the History of Anti-Semitism in Modern Europe and America

(4) LINDEMANN

Prerequisite: History 131F. May be repeated for credit to a maximum of 8 units.

Research seminar in the history of anti-semitism in Europe and America.

135A. Kievan and Muscovite Russia

(4) HASEGAWA

Prerequisites: History 4B and upper-division standing.

A survey of Kievan Rus' and Muscovite state and society.

135B. History of Imperial Russia

(4) HASEGAWA

Prerequisites: History 4C and upper-division standing.

A survey of Russian history from the reign of Peter the Great until the collapse of the imperial regime in 1917.

135C. History of Russia: 1917 to Present

(4) HASEGAWA

Prerequisites: History 4C and upper-division standing.

A history of the Soviet Union, focusing on social and economic changes since 1917.

135P. Problems in Modern Russian History

(4) HASEGAWA

Prerequisite: History 135B or 135C or consent of instructor.

A weekly seminar on a topic in modern Russian and/or Soviet history.

137. The Origins of Contemporary France

(4) TALBOTT

Prerequisite: History 4C or upper-division standing.

Transformation of a tradition-bound rural society into a leading industrial power, 1815 to the present.

138. War and Society Since 1789

(4) TALBOTT

Prerequisite: History 4.

Topics in war, the state and society since 1789. Origins and consequences of wars, and the political, social, and economic aspects of both land and sea warfare. A seminar, with limited enrollment.

138V. The Vietnam War as History

(4) TALBOTT

Prerequisite: History 4C or 17C.

The war in Vietnam from the uprising against the French in 1946 to the fall of Saigon in 1975. Stress will be laid on military, political and social aspects and on impacts in France and the U.S.

140A-B. Early Modern Britain

(4-4) MCGEE

Prerequisite: History 4B.

A history of England from the late Middle Ages to the eighteenth century.

140AH-BH. Early Modern Britain

(1-1) MCGEE

Prerequisites: concurrent enrollment in History 140A-B and consent of instructor.

A weekly, one-hour section, open to any students who would like to supplement the material of the lecture course with additional readings and discussion.

140P. Proseminar in Early Modern British History

(4) MCGEE

Prerequisites: History 140A and 140B and consent of instructor. May be repeated for credit to a maximum of 8 units.

A writing seminar in which emphasis is placed upon the use of primary sources.

141A. England in the Age of Queen Victoria—the Nineteenth Century

(4) GOLLIN

Prerequisite: any lower-division history course.

England in the age of Queen Victoria — the nineteenth century.

141B. From the Death of Queen Victoria to the Battle of Britain—the Twentieth Century

(4) GOLLIN

Prerequisite: any lower-division history course.

From the death of Queen Victoria to the Battle of Britain—the twentieth century.

141P. Proseminar in Recent English History

(4) GOLLIN

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit up to a maximum of 8 units.

Research in recent British history including topics in social, political, cultural, intellectual, military, naval, and aeronautical subjects.

142. History of North Africa

(4) GALLAGHER

Prerequisite: History 46 or upper-division standing.

Survey of the history of Morocco, Algeria, Tunisia, and Libya in the nineteenth and twentieth centuries. Themes include the imposition of colonial rule, revolutionary struggles, and post-independence development.

143. The Nile Quest

(4) COLLINS

Prerequisite: History 49 or consent of instructor.

An examination of African and Victorian societies during the half century in which English explorers sought the source of the Nile. The greatest geographical puzzle of the nineteenth century, the search opened Africa to European partition, imperialism and modernization.

143P. Proseminar in the Nile Quest

(4) COLLINS

Prerequisite: History 143. May be repeated for credit to a maximum of 8 units.

An undergraduate research seminar for students who have taken History 143 and wish to conduct more intensive studies of the Nile Valley.

144. Imperialism and Resistance in Africa

(4) COLLINS

Prerequisite: History 49 or consent of instructor.

Imperialism in Africa is a course in the history of African resistance to European encroachment in sub-Saharan Africa. The course deals with the seven "case" studies of African resistance.

144I. Imperialism and the British Empire

(4) COLLINS

Prerequisite: History 4C.

An investigation of imperialism with examples from the modern British Empire.

144P. Proseminar in Imperialism and Resistance in Africa

(4) COLLINS

Prerequisite: History 144. May be repeated for credit to a maximum of 8 units.

An undergraduate research seminar for students who have taken History 144 and wish to conduct more intensive studies of African resistance and European imperialism.

145A. The Islamic world, I: The Formation of Islamic Civilization, 600-1000A.D.

(4) HUMPHREYS

Prerequisite: History 46 or upper-division standing.

The rise of a world religion and the emergence of a new multi-ethic society under its aegis; the evolution of social and political institutions within the Universal caliphate; the creation of a specifically Islamic culture and intellectual life.

145B. The Islamic World, II: Expansion and Consolidation, 1000-1700

(4) HUMPHREYS

Prerequisite: History 46 or upper-division standing. (History 145A recommended but not required.)

The failure of the caliphate and the search for a new political order; Turkish military and political domination; the structures of urban society; the rebirth of Persian literature; the classical formulations of Islamic religious thought.

145D. War and Diplomacy in the Middle East: 1876-present

(4) HUMPHREYS

Prerequisite: History 46 or upper-division standing.

Selected problems in the relations of Middle Eastern states within the region and with external powers. The problems studied will vary from year to year. Sample topics: World War I settlement, Mossadegh era in Iran, Israeli invasion of Lebanon (1982).

145P. Proseminar in the History of Islamic Societies

(4) HUMPHREYS

Prerequisite: a previous course in Middle Eastern history or consent of instructor.

A weekly seminar on a topic in the history of the Islamic world, from 600 A.D. to modern times. A research paper is required.

145Q. Tradition and Modernity in Islamic Political Thought

(4) HUMPHREYS

Prerequisite: History 46 or consent of instructor.

The emergence of an Islamic tradition of political thought in medieval times, and the reshaping of this tradition to meet the demands of modernity. Key problems: the purposes of government, autocracy versus popular participation, the nature of legitimacy.

146A-B. History of the Modern Middle East

(4-4) GALLAGHER

Prerequisite: History 46 or upper-division standing.

Course themes include the western impact, forms of resistance, and political, social, economic, and religious dimensions of current crises in Turkey, Iran, and the Arab world.

A: The nineteenth century.

B: The twentieth century.

146P. Proseminar in the History of the Modern Middle East

(4) GALLAGHER

Prerequisite: History 146A or 146B or consent of instructor. May be repeated for credit up to a maximum of 8 units.

A weekly seminar on a topic in modern Middle East history. A research paper will be required.

146PC. Proseminar on the Arab-Israeli Conflict

(4) STAFF

Prerequisite: History 146T may be taken concurrently.

A weekly seminar on topics related exclusively to the Arab-Israeli conflict. A research paper will be required.

146T. History of the Arab-Israeli Conflict

(4) GALLAGHER

Prerequisite: History 46 or upper-division standing.

History of the Arab-Israeli conflict from the mid-nineteenth century to the present. Course themes include evolution of Zionism, Palestine before World War I, the British Mandate, World War II, the Arab-Israeli Wars, rise of Palestinian nationalism, and Israeli and Palestinian societies today.

146PW. Proseminar on Women in Middle Eastern History

(4) GALLAGHER

Prerequisite: History 146A or 146B or consent of instructor.

A weekly seminar focusing on women in Middle Eastern history. A research paper will be required.

147. Modern African History

(4) STAFF

Prerequisite: upper-division standing.

This is a basic survey course on modern African history in the nineteenth and twentieth centuries, in which the era of colonial rule will be stressed. The emphasis will be on Africa south of the Sahara.

147P. Special Studies in Modern African Intellectual History

(4) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated for credit to a maximum of 8 units.

Research seminar in modern African intellectual and cultural history.

148A-B. A History of Social Policy in the United States

(4) BERGSTROM

Prerequisite: History 7, or any quarter of History 17A-B-C, or upper-division standing.

Study of the identification, formation, and consequences of social policy in the United States over the past 200 years. Policies toward poverty, civil rights, family and population, health, education, crime, religion, and urban development are studied, among others.

148P. Proseminar in U.S. Social Policy History

(4) BERGSTROM

Prerequisite: one of History 148A, 148B, 172A, 172B, 17B, or 17C.

A research seminar in selected social policy issues of the nineteenth and twentieth centuries in the U.S.

149A. West African History

(4) STAFF

Prerequisite: History 147.

Interpretive studies of modern West African political and intellectual leaders with emphasis on resistance to colonial rule, drive for self-government, renaissance of neo-African culture, neocolonialism, and continuing revolution.

149B. History of South Africa

(4) STAFF

Prerequisite: upper-division standing.

Economic, social, and political history of South Africa.

149C. History of East Africa

(4) COLLINS

Prerequisite: any lower-division history course or upper-division standing.

An introduction to the history of East Africa, from the earliest times to the present day states of Kenya, Uganda, and Tanzania.

149D. History of Contemporary South Africa

(4) STAFF

Prerequisite: History 49 or History 149B.

A history of South Africa from the Boer War to the present including such topics as the unification of South Africa, South Africa between the wars, the rise and implementation of apartheid, and the reactions of the peoples of South Africa.

149E. History of the Sudan

(4) COLLINS

Prerequisite: History 49 or consent of instructor.

The largest country in Africa, the history of the Sudan spans from the paleolithic to the present, including the kingdom of Kush, medieval Christian kingdoms before the coming of the Arabs, Turks and British until independence in 1956.

149P. Proseminar in African History

(4) COLLINS

Prerequisites: at least two courses dealing with the African past. May be repeated for credit to a maximum of 8 units.

Undergraduate research in African history.

150I. Indians of Colonial Mexico

(4) CLINE

Prerequisite: History 8 or upper-division standing.

A survey of the indigenous populations of Mexico (1500-1800), including the Aztecs, Mayas, Mixtecs, and Zapotecs, examining the impact of Europeans on native political, social, and economic organization, and the persistence of indigenous patterns.

150P. Proseminar in Latin American Social History

(4) CLINE

Prerequisite: History 8 or upper-division standing. May be repeated once for credit.

Selected topics in Latin American social history including class, gender, race, family networks, rural and urban milieux.

151A-B-C. Hispanic American History

(4-4-4) CLINE, LINDO-FUENTES, ROCK

Prerequisite: History 8 or upper-division standing.

A: A general survey of the social, economic, institutional, and intellectual history of colonial Spanish America (1492-1800), with comparisons to colonial Brazil.

B: Nineteenth-century Latin America. Topics include: the independence movements, the consolidation of the new states, and the rise of export-oriented economies.

C: Twentieth-century Latin America: the export economies, industrialization, the rise of U. S. hegemony; populism and military dictatorship in the postwar period; the Mexican and Cuban revolutions; Vargas, Peron, Cardenas, Castro, and Allende.

151P. Proseminar in Twentieth Century Latin America

(4) ROCK

Prerequisite: History 8 or upper-division standing.

A weekly seminar in the modern history of Latin America. A research paper will be required.

152A-B. History of Central America

(4-4) STAFF

Prerequisite: History 8.

A survey of the history of Central America from colonial times to the present. The course emphasizes the historical trends that help to explain the generalized crisis of the 1980s.

A: From the colonial period to 1900.

B: 1900 to the present.

152C. Latin American Economic History

(4) STAFF

Prerequisite: History 8.

A survey of the main problems of the economic history of Latin America during the colonial and national periods. The course will discuss dependency and neoclassical interpretations.

152P. Proseminar in Central American History

(4) LINDO-FUENTES

Prerequisite: History 152A or 152B.

A weekly seminar on a topic in modern Central American history. A research paper will be required.

153. Comparative Seaborne Empires: 1415 to 1825

(4) DUTRA

Prerequisite: any lower-division course in history or upper-division standing.

Analysis of the similarities and differences between the overseas activities of Portugal, Spain, France, England, and the United Provinces of the Netherlands.

153L. History of Argentina from Spanish Settlement to the Present Day

(4) ROCK

Prerequisite: History 8 or upper-division standing.

A case study in economic underdevelopment and political instability.

153P. Special Studies in the History of Overseas Expansion: 1415-1825

(4) DUTRA

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

A weekly seminar on overseas expansion (Portugal, Spain, England, France, and the Netherlands), 1415-1825. A research paper will be required.

154A-B. Portugal Overseas

(4-4) DUTRA

Prerequisite: any lower-division course in history or upper-division standing.

A: A comparative analysis of Portuguese activity in Africa, Asia, and America, 1415 to 1825.

B: The Portuguese in Africa and Asia, 1826 to the present.

154P. Special Studies in the History of Portuguese Expansion

(4) DUTRA

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

A weekly seminar on Portuguese expansion in Africa, Asia, and America. A research paper will be required.

155A-B. History of Portugal

(4-4) DUTRA

Prerequisite: any lower-division course in history or upper-division standing.

A: A general survey of Portugal from its origins to 1580 with an emphasis on social, economic, and cultural history.

B: Modern Portugal, 1580 to the present.

155P. Special Studies in the History of Portugal

(4) DUTRA

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

A weekly seminar on the history of Portugal from its origins to the present. A research paper will be required.

156A-B. History of Mexico

(4-4) CLINE

Prerequisite: History 8 or upper-division standing.

A: Socioeconomic history of colonial Mexico with special attention on the indigenous peoples.

B: The nineteenth and twentieth centuries. Independence, the age of Santa Anna, the Reform, Porfiriato, the Mexican Revolution, modern politics, and the economy of the 1970s.

156P. Special Studies in Mexican History

(4) CLINE

Prerequisite: History 156A or 156B or consent of instructor. May be repeated for credit to a maximum of 8 units.

Reading and discussion on topics in Mexican social and economic history. A research paper will be required.

157A-B. History of Brazil

(4-4) DUTRA

Prerequisite: any lower-division course in history or upper-division standing.

A general survey of the history of Brazil in two quarters:

A: From the discovery of the New World to the formation of the empire. (Offered every other year; alternates with History 155A).

B: Modern Brazil. (Offered every other year; alternates with History 155B).

157C. Intellectual History of Brazil: Modern Period

(4) DUTRA

Prerequisite: any lower-division course in history or upper-division standing.

Focuses on the impact of intellectuals and ideas on Brazilian society in the nineteenth and twentieth centuries.

157P. Special Studies in the History of Brazil

(4) DUTRA

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

A weekly seminar on the history of Brazil in the colonial and modern periods. A research paper will be required.

158. The Great Revolutions of Latin America

(4) ROCK

Prerequisite: upper-division standing.

A survey of great revolutionary movements in Latin America: the Spanish Conquest, the struggle for independence in the early nineteenth century, the Mexican and Cuban revolutions of the twentieth century, with commentaries on contemporary counter-revolutionary movements in Brazil, Chile, and Argentina.

158L. History of the Latin American Church

(4) CLINE

Prerequisite: History 8 or upper-division standing.

A survey of the church in Latin America from the "spiritual conquest" in the colonial period through the rise of Protestantism and liberation theology in the twentieth century. Topics include the institutional, political, cultural, and economic roles of the church.

159A. Women in American History

(4) STAFF

Prerequisites: any two quarters of History 17A-B-C or upper-division standing.

Social history of women in America from the Colonial period to 1800. Changing marriage, reproduction and work patterns, and cultural values about the female role. Attention to racial, class and ethnic differences. Analysis of feminist thought and the several women's movements.

159B. Women in American History

(4) COHEN

Prerequisites: any two quarters of History 17A-B-C or upper-division standing.

Social history of women in America from 1800 to 1900. Changing marriage, reproduction and work patterns, and cultural values about the female role. Attention to racial, class and ethnic differences. Analysis of feminist thought and the several women's movements.

159C. Women in Twentieth century American History

(4) DE HART

Prerequisites: any two quarters of History 17A-B-C or upper-division standing.

A continuation of History 159A-B from 1900 to the present.

159E. American Social History, Seventeenth to Nineteenth Centuries

(4) COHEN

Prerequisite: History 17A or 17B.

The evolution of American society from colonial settlement to early industrialization, with analysis of social institutions (family, church, polity), relationships (sex, class, race, ethnicity), and processes (community integration and stability, disorder and control, and social mobility).

159P. Proseminar in Women's History

(4) COHEN

Prerequisite: History 159A or 159B. May be repeated for credit up to a maximum of 8 units.

Research seminar on the history of women in America.

159Q. Special Studies in Women's History

(4) COHEN

Prerequisite: History 159A or 159B.

The study of special topics in the history of women in the United States.

160A. The American South to 1865

(4) HARRIS

Prerequisite: History 17A or upper-division standing.

The origins and development of distinctive economic, social, political, and cultural patterns in the ante-bellum South.

160B. The American South, 1865 to the Present

(4) HARRIS

Prerequisite: History 17B or 17C or upper-division standing.

Change and resistance to change in Southern economic, social, political, and cultural life since the Civil War.

160P. Proseminar in the History of the American South

(4) HARRIS

Prerequisite: History 160A or 160B. May be repeated for credit to a maximum of 8 units.

Research in selected problems in the history of the American South.

161A-B. Colonial and Revolutionary America

(4-4) COHEN

Prerequisite: History 17A or upper-division standing.

A social and political history of colonial and revolutionary America with emphasis on the interaction of Native American, Europeans, and African Americans. The course will combine lectures with discussion of both primary and secondary sources. A. From initial settlement to the mid-eighteenth century. B. From mid-eighteenth century to 1800.

161P. Proseminar in Early American History

(4) STAFF

Prerequisite: History 17A or upper-division standing.

A research seminar on early American history.

161Q. Special Studies in Early American History

(4) STAFF

Prerequisite: History 17A or upper-division standing.

Readings and discussions on selected topics in early American history. Topics, which will change each year, include: witchcraft in comparative perspective (England and America), race in seventeenth-century America, work and labor in preindustrial America. Research paper will be required.

163A. Women and Public Policy in Twentieth Century America

(4) DE HART

Prerequisite: History 7C or History 17C or upper-division standing.

How gender-based cultural attitudes and social roles, collective action, and economic and social change interacted to shape law and public policy with respect to work, family, legal and reproductive rights. From 1900 through approximately 1945.

163B. Women and Public Policy in Twentieth Century America

(4) DE HART

Prerequisite: History 163A or Women's Studies 20.

How gender-based cultural attitudes and social roles, collective action, and economic and social change interacted to shape law and public policy with respect to work, family, legal and reproductive rights. From World War II to the present.

163P. Proseminar on Women and Public Policy Issues in Twentieth Century America

(4) DE HART

Prerequisites: History 163A or 163B. May be repeated for credit for a maximum of 8 units.

A research seminar utilizing team research and focusing on basic problems in public policy to be identified each year. Will use traditional sources and oral history, interviewing community leaders, government officials, etc. Individual papers will be integrated into group reports.

164C. Civil War and Reconstruction

(4) BONADIO

Prerequisite: History 17B or upper-division standing.

A history of the United States during the second half of the nineteenth century. Emphasis is placed on the causes of the Civil War, the outstanding developments of the war itself, and the major consequences of the Reconstruction period.

164CP. Proseminar in Civil War and Reconstruction

(4) BONADIO

Prerequisite: History 164C or History 17B. May be repeated for credit to a maximum of 8 units.

Research seminar on events leading up to the outbreak of the Civil War.

164I. American Immigration

(4) BONADIO

Prerequisite: any quarter of History 17A-B-C or upper-division standing.

A survey of American immigration history in the nineteenth and twentieth centuries. Treats primarily immigration from Europe, the European background to immigration, the immigrants' American experience, and American immigration policy, both past and present.

164IP. Proseminar on American Immigration History

(4) BONADIO

Prerequisite: History 164I or History 17B. May be repeated for credit to a maximum of 8 units.

Research seminar on American immigration history in the nineteenth and twentieth centuries and the evolution of American immigration.

164Q. History of American Journalism

(4) BONADIO

Prerequisite: any quarter of History 17A-B-C or upper-division standing.

A history of American journalism from nineteenth century to the present. Makes it possible to study evolution of journalism as a social institution and to interpret the major episodes in the development of American society through the press and the reporters who wrote for it.

165. America in the Gilded Age, 1876 to 1900

(4) HARRIS

Prerequisite: History 17B or upper-division standing.

The responses of American people and institutions to the opportunities and problems of industrialization and rapid social change in the late nineteenth century.

166A-B. Recent History of the United States

(4-4) GRAHAM, KALMAN

Prerequisite: any lower-division course in history or upper-division standing.

Political, economic, and social development of the United States from 1900 to the present time.

166LA. United States Legal History

(4) STAFF

Prerequisite: upper-division standing.

The origins and evolution of American law from the colonial to progressive eras. Examines the development of the law in social context, considering the role of institutions, lawmakers, ideas, and the law in practice in tracing the law's history.

166LB. United States Legal History

(4) KALMAN

Prerequisite: upper-division standing

The evolution of American law from the progressive era to the present. Examines changes in the legal profession, legal education, jurisprudence, private law, and the Supreme Court.

166P. Proseminar in Twentieth-Century History

(4) KALMAN

Prerequisites: History 166A and 166B, preferably both. May be repeated for credit to a maximum of 8 units.

A seminar for students who have completed History 166A-B and who wish to pursue research projects on aspects of twentieth-century American history.

167A. Rise of the American Marketplace

(4) BROWNLEE

Prerequisite: History 17A or upper-division standing.

American economic development to the Civil War, including the dynamics of European colonial expansion, the impact of mercantilism and the Revolution, the growth and redistribution of population, and the sources of early industrialization.

167B. Development of American Industrial Society: 1860 to Present

(4) BROWNLEE

Prerequisite: History 17B or 17C or upper-division standing.

Economic and social history of the United States associated with the continuing industrial transformation of the nation, emphasizing a dynamic population and the changing organizational basis of industrial society, including the development of the modern corporation and the welfare state.

167C. History of American Labor

(4) BROWNLEE

Prerequisite: any quarter of History 17A-B-C or upper-division standing.

An economic and social history of American labor, 1607 to present, treating patterns of economic and social opportunity, the structure and composition of the labor force (including the role of ethnic and racial minorities, women, and children), and the character of organized labor movements.

167CA. History of the American Working Class, 1800-1900

(4) VARGAS

Prerequisites: History 17A-B; upper-division standing.

A survey of the origins and formation of the American working class from the colonial period to the late nineteenth century. Topics include workers and community, the coming of the industrial order, the 1877 labor strike, and workers and the trade union movement.

167CB. History of the American Working Class, 1900-Present

(4) VARGAS

Prerequisites: History 17C; History 167CA; upper-division standing.

A survey of American workers from the turn of the century to the present period. Topics include workers and American socialism, the 1919 steel strike, the rise of the CIO, labor and the Cold War, and deindustrialization and workers.

167CP. Proseminar in American Working Class History

(4) VARGAS

Prerequisites: History 167CA-CB. May be repeated for credit to a maximum of 8 units.

A research and writing seminar in American working class history with emphasis on the twentieth century period. A major research paper will be required on a seminar related topic.

167D. History of American Business

(4) BROWNLEE

Prerequisite: any quarter of History 17A-B-C or upper-division standing.

A survey of the history of business institutions in America, particularly since the rise of the corporate bureaucracies in the nineteenth century. Places business in context of development of both the economy and American society at large. Throughout, attention is paid to government-business relations.

167P. Proseminar in Economic History

(4) BROWNLEE

Prerequisite: History 167A or 167B or 167C. May be repeated for credit to a maximum of 8 units.

A proseminar for students who have completed one other quarter of the History 167 series and wish to pursue independent inquiry into some aspect of the economic history of the United States.

168A-B. History of the Chicanos

(4-4) GARCIA, VARGAS

Prerequisite: any quarter of History 17A-B-C, or any quarter of Chicano Studies 1A-B-C, or upper-division standing. Same course as Chicano Studies 168A-B.

The history of the Chicanos, 1821 to the present; traces the social-cultural lifeline of the Mexicans who have lived north of Mexico.

168E. History of the Chicano Movement

(4) GARCIA

Prerequisite: any quarter of Chicano Studies 1A-B-C, or History 10 or Chicano Studies 10, or History 168B or Chicano Studies 168B, or upper-division standing. Same course as Chicano Studies 168E.

An examination of the Chicano movement in the United States from the mid-1960s to the mid-1970s. Topics will include the student movement, the farmworker movement, the Plan de Aztlan, the Raza Unida Party, Chicana feminists, the anti-war movement, and Chicano studies.

168F. Racism in American History

(4) GARCIA

Prerequisite: any quarter of History 17A-B-C or any lower-division course in Asian American studies, Black studies, Chicano studies, or upper-division standing. Same course as Chicano Studies 168F.

This course will examine racism as a major ideological force in defining American society from the colonial era to the 1980s. Major focus will be on the changing nature of racism as an ideology as well as the relationship of racism to specific minority groups such as Afro-American, Native-American, Chicano, and Asian-American.

168G. Autobiography in American History

(4) STAFF

Prerequisite: any quarter of History 17A-B-C or upper-division standing.

This course will examine the autobiography as a specific historical genre. Autobiographies involving a range of Americans and including class, race, ethnic, and gender issues will be examined as a way of interpreting the history of the United States.

168P. Proseminar in Chicano History

(4) VARGAS

Prerequisites: History 168A or 168B,or Chicano Studies 168A or 168B, and consent of instructor. Same course as Chicano Studies 168P. May be repeated for credit to a maximum of 8 units.

Studies in selected aspects of Chicano history with an emphasis on social and economic history.

169A-B. Afro-American History

(4-4) STAFF

Prerequisite: any lower-division course in history or Black Studies, or upper-division standing. Same course as Black Studies 169A-B.

A: History of Afro-Americans from Africa in ancient times to the U.S. in the mid-nineteenth century.

B: History of Afro-Americans from emancipation to the present.

169M. History of Afro-American Thought

(4) STAFF

Prerequisites: History 169A-B; consent of instructor.

Study of the development of Afro-American thought from the 1860s to the 1960s as reflected in intellectual and popular media.

169P. Proseminar in Afro-American History

(4) STAFF

Prerequisite: History 169A or 169B or consent of instructor. May be repeated for credit to maximum of 8 units.

Studies in nineteenth- and twentieth-century Afro-American history, with an emphasis on society, culture, and race relations.

170. Asian American Women's History

(4) STAFF

Prerequisite: History 70A or 70B or Asian American Studies 1, 2, or 3. Same course as Asian American Studies 131.

The lives and changing status of Asian immigrant women, past and present; Japanese and Korean "picture brides"; American-born girls of Asian ancestry; Chinese, Japanese, Korean, and Filipino war brides; adopted Asian girls; and diverse life-styles of Asian American women today.

171A-B. History of the Foreign Relations of the United States

(4-4) LOGEVALL

Prerequisite: any lower-division course in history or upper-division standing.

A: The theory and practice of American foreign policy from colonial times to 1900.

B: Analysis of twentieth-century developments. Emphasis on broad policy, concepts, and ideas.

171P. Proseminar in American Diplomacy and Politics

(4) LOGEVALL

Prerequisite: upper-division standing or consent of instructor. May be repeated for credit to a maximum of 8 units.

This is a seminar that will focus on training in historical research methods. It will require an essay on some aspect of American history, most likely in the areas of diplomacy and politics, chosen jointly by the student and the instructor.

171Q. Readings and Discussions on Cold War History

(4) LOGEVALL

Prerequisite: History 171B.

This course concerns the theory and practice of American foreign policy toward the Communist bloc during the era of the cold war, or approximately 1945 to the present. The course revolves around a dialogue between students and instructor based on written analyses of the literature. An essay will be required of each student.

172A-B. Politics and Public Policy in the United States.

(4-4) KELLEY

Prerequisites: History 7, or any two quarters of History 17A-B-C, or upper-division standing.

The interaction of politics and public policy from the Revolution to the present, focusing upon the key issues of each era in social, economic, cultural, racial, and other policy areas. A particular concern for the policy-making process, ideology, and the cultural origins of politics.

172P. Public Policy Issues in the 1960s

(4) KELLEY

Prerequisites: History 172A-B. May be repeated for credit to a maximum of 8 units.

Proseminar in the history of public policy. A research seminar utilizing team research method to explore major policy questions in the Kennedy-Johnson-Nixon era.

172W. Water in California

(4) KELLEY

Prerequisites: History 17B-C or equivalent.

History of water use and water management in California as it affected the state's economic, social, and political development, 1850 to the present.

173A-B. American Intellectual History

(4-4) GLICKSTEIN

Prerequisites: any two quarters of History 17A-B-C or upper-division standing.

The evolution of the principal systems of thought concerning God, nature, humanity, and society from the colonial period to the present. The course will divide at the Civil War.

173Q. American Popular Culture

(4) STAFF

Prerequisite: any lower-division history or Black Studies course, History 173S, or upper-division standing.

Survey of history and developments in U.S. popular culture during the nineteenth and twentieth centuries, stressing the effects of circuses, carnivals, Wild West shows, music, films, radio, TV, and oral and written literature on American society and culture.

173S. American Popular Cultural History

(4) NASH

Prerequisite: History 17B or 17C or upper-division standing.

Traces the origins and development of popular culture in modern industrial America, 1860 to the present. Emphasis is on the ideas, attitudes, and values reflected in mass entertainment media such as popular literature, motion pictures, radio, television, and popular music.

173T. American Environmental History

(4) NASH

Prerequisite: Environmental Studies 11, or any lower division course in history, or consent of instructor. Same course as Environmental Studies 173T.

Traces the history of American attitudes and behavior toward nature. The focus is on wilderness, the conservation movement and modern forms of environmentalism.

175A-B. American Cultural History

(4-4) STAFF

Prerequisite: any lower-division course in history or upper-division standing.

The origin and development of a national character and culture since 1607; emphasis is upon the use of artifactual evidence, such as architecture, painting, and literature, in formulating historical interpretations regarding the American character and culture.

175P. Proseminar in American Cultural History

(4) STAFF

Prerequisite: History 175A or 175B. May be repeated for credit to a maximum of 8 units.

A research seminar on the use of artifacts in American cultural history.

176A-B. The American West

(4-4) OGLESBY

Prerequisite: any lower-division course in history or upper-division standing.

The West as a frontier and as a region, in transit from the Atlantic seaboard to the Pacific, and from the seventeenth century to the present.

176P. Proseminar in the History of the American West

(4) OGLESBY

Prerequisites: History 176A-B or consent of instructor. Enrollment is limited. May be repeated once for credit.

The study of special topics in the history of the American west.

177. History of California

(4) STAFF

Prerequisite: any lower-division course in history or upper-division standing.

California as a case study of national trends, and as a unique setting with its special problems and culture.

177P. Proseminar in California History

(4) OGLESBY

Prerequisite: History 177 or consent of instructor. May be repeated once for credit.

A research and writing seminar on the history of California.

178A-B. American Urban History

(4-4) CALLOW

Prerequisites: any two quarters of History 17A-B-C or upper-division standing.

A study of the political, economic, social, and intellectual impact of the city upon American history, and the impact of history upon the growth of American urbanization.

178M. History of American Urban Crime

(4) CALLOW

Prerequisite: any lower-division history course or upper-division standing.

The historical evolution of organized crime in the nineteenth and twentieth centuries: its structure, interpretations, ethnicity, illicit enterprises, and impact upon the American city.

178MP. Proseminar in American Urban History or American Urban Crime

(4) CALLOW

Prerequisite: upper-division standing. Limited to 12 students. May be repeated for credit to a maximum of 8 units.

A research and writing seminar. The student will choose a topic in either American urban history or the history of American urban crime and write a paper.

178P. Proseminar in the History of Crime in the Cities of the United States

(4) CALLOW

Prerequisite: upper-division standing. Limited to 12 students. May be repeated for credit to a maximum of 8 units.

A research and writing seminar. The student will write a paper on a topic involving the history of American urban crime.

178Q. Studies in American Urban History

(4) CALLOW

Prerequisites: History 178A-B or consent of instructor.

A reading and discussion course limited to ten students.

179. History of the American Indian

(4) STAFF

Prerequisite: History 79FS or upper-division standing.

A lecture course on the history of American Indians, stressing pre-Columbian ethnohistorical themes, Indian history, and Indian-white relations. Chronology covers Indian history through modern times.

179D. The Native American Indian and the Frontier: Ideas and Interpretations

(4) STAFF

Prerequisite: History 79FS, or any quarter of History 17A-B-C, or upper-division standing.

The role of the American Indian in United States history. A study of historical thought and interpretation concerning main currents of national development and the origins of American attitudes and policies toward America's native people. Lectures, readings, and discussions.

179P. Special Studies in American Indian History

(4) STAFF

Prerequisite: History 179, 179D, or 17A. May be repeated for credit to a maximum of 8 units.

Research seminar in early American and frontier and Indian history.

179T. Historical Preservation in America, Problems and Case Studies

(4) STAFF

Prerequisite: any quarter of History 17A-B-C or upper-division standing.

The historical record of America's past: what we had, what we lost, and what we have preserved. Problems and case studies of history as told in the physical record of the territorial occupation of the U.S.

180A-B-C. History and Culture of East Asia

(4-4-4) FOGEL

Prerequisite: upper-division standing.

An introduction to the history and cultures of the major civilizations of East Asia: China, Japan, Korea, Vietnam. Stress will be placed on the shared historical experience of the region and cultural unity and diversity. A: Prehistory to 600. B: 600-1600. C: 1600-1945.

180DA. Korean History and Civilization: Part I

(4) PAI

Prerequisite: Same course as Korean 180DA.

This course is a survey of the history of Korea from prehistoric time to the end of the Koryo period. Topics include the rise of states and kinship, Buddhism, Confucianism, cultural interaction with China, Japan, and the Mongols.

180DB. Korean History and Civilization: Part II

(4) PAI

Prerequisite: Same course as Korean 180DB.

This course is a continuation of History 180DA and is a survey of the history of Korea from the Yi dynasty to the present day. Topics include Yangban society, Japanese invasions, the Korean War, and political division.

180E. Korean Art and Archeology

(4) PAI

Prerequisite: History 80 or upper-division standing. Same course as Asian Studies 180E.

Survey of the artistic, archeological, and architectural traditions of Korea. Examples of artifactual remains and monuments from early burial goods, ceramics, Buddhist sculpture to Yi dynasty gardens; basic systems of technology; stylistic changes related to larger social and religious developments.

180F. Chinese Archaeology

(4) STAFF

Prerequisite: upper-division standing or consent of instructor. Same course as Asian Studies 180F.

An overview of Chinese archaeology from the Paleolithic to the unification of China (221 BC). Emphasis is on the discussion of various aspects of Early China such as art, ritual, writing, politics, economy, and their inter-relationships.

180P. Proseminar in East Asian History and Culture

(4) FOGEL

Prerequisite: History 80 or 180A or 180B or 180C.

Reading and research on selected issues in the history of East Asia with emphasis on the cultural interconnectedness of the region.

184A-B-C. China's Major Dynasties

(4-4-4) CHEN

Prerequisite: upper-division standing.

In-depth study of the history of some important Chinese dynasties. (Offered periodically.)

A: Han dynasty China.
B. T'ang dynasty China.
C: Sung dynasty China.

184P. Proseminar in China's Major Dynasties

(4) CHEN

Prerequisite: History 184A, 184B, or 184C. May be repeated for credit to a maximum of 8 units.

Undergraduate research in Chinese history.

185A-B. Modern China

(4-4) STAFF

Prerequisite: any lower-division course in history or upper-division standing.

A: From 1600 to 1900.
B: From 1900 to date.

185M. Chinese Marxism

(4) STAFF

Prerequisite: upper-division standing.

Introduction to the most influential system of thought in twentieth-century China. Will examine background of Marxism's coming to China, its role in military thinking, education, feminism, the place of the intellectual, Mao's thought, etc.

185P. Proseminar in Chinese Marxism

(4) FOGEL

Prerequisite: History 185M or some background in the subject after consultation with the instructor.

Undergraduate research and class presentations on Chinese Marxism.

186A-B-C. History of China

(4-4-4) CHEN

Prerequisite: upper-division standing.

A: Ancient China, to A.D. 200.
B: Medieval China, A.D. 200 to 1000.
C: Early Modern China, A.D. 1000 to 1600.

186P. Proseminar in History of China

(4) CHEN

Prerequisite: History 186A, 186B, or 186C. May be repeated for credit to a maximum of 8 units.

Undergraduate research in Chinese history.

187A. Japan Under the Tokugawa Shoguns

(4) ROBERTS

Prerequisite: upper-division standing.

A survey of Japanese social and cultural history from the seventeenth to the nineteenth century.

187B. Modern Japan

(4) ROBERTS

Prerequisite: upper-division standing.

A survey history of Japan from the early nineteenth century until World War II, in an effort to explain how—and at what price—Japan became the first successful modernizer in the nonwestern world.

187C. Recent Japan

(4) ROBERTS

Prerequisite: upper-division standing.

The history of Japan since World War II, dealing with the American occupation, economic recovery and growth, social change, and political development.

187L. Japanese Reading in History

(4) ROBERTS

Prerequisites: Intermediate Japanese ability and consent of instructor.

This course is for students in Japanese history who want to learn to read secondary works in the Japanese language. We will use breif texts to introduce the essential vocabualry and language patterns in Japanese historiography.

187P. Proseminar in Japanese History

(4) ROBERTS

Prerequisite: any of the following: History 90, 187A, 187B, 187C, or consent of instructor. May be repeated for credit to a maximum of 8 units.

A research seminar in Japanese history. Topics will vary depending on the interests and background of the participants. Reading knowledge of Japanese is not required.

190A. China's Social and Institutional History

(4) CHEN

Prerequisite: upper-division standing.

A study of China's changing society, in pre-imperial, imperial, late imperial, and modern eras and its relationship with some important institutions such as land tenure, education and examination system, central and local government organization, ancestor-cult and clan.

190B. Problems in Chinese History

(4) CHEN

Prerequisite: upper-division standing.

Studies on selected topics of traditional China.

190C. History of Chinese Thought

(4) CHEN

Prerequisite: upper-division standing.

A study of the development of Chinese thought from Confucius to Mao Tse-tung.

190W. Chinese Historiography

(4) FOGEL

Prerequisite: upper-division standing.

An examination of the major historical traditions of China over the past 2500 years: debates, texts, historians, patronage, impact of Marxism and communism (in the twentieth century).

191. Public History

(4) STAFF

Prerequisites: History 17A-B-C.

Topical history course to explore the new field of public history, heretofore limited to graduate students. Course will explore different sectors of public history which include preservation, government, business, research organizations, media, historical societies and museums, archives, and teaching of public history. (Original case studies and reading materials will be prepared since at present no textbook exists.)

192. Truth and Fiction: A Century of German History in Literature

(4) STAFF

Prerequisite: History 4C or an upper-division course in modern European history or German literature. Same course as German 192.

German history, 1870-1971, as reflected in German literature. Tentative list of authors to be read: Fontane, Grillparzer, George, Hofmannstahl, Roth, Plievier, Brecht, Hochhuth, Johnson.

193A. Twentieth-Century Germany: Kaiser to Hitler

(4) MARCUSE

Prerequisite: History 4C or upper-division standing.

A political and cultural history of Germany from the turn of the century to 1933; the roots of national socialism.

193B. Twentieth-Century Germany: The Nazi Years

(4) MARCUSE

Prerequisite: History 4C or upper-division standing.

A history of Germany from the rise of Hitler to the capitulation of 1945, and of the public and private face of national socialism—its origins, its ideology, and its practices.

193P. Studies in Twentieth-Century Germany

(4) MARCUSE

Prerequisite: History 193A or 193B. May be repeated for credit to a maximum of 8 units.

An undergraduate seminar to explore in greater depth some of the problems—both general and specific—of modern German history.

194AH. Senior Honors Thesis

(4) STAFF

Prerequisite: Admission to senior honors program. 12 units of credit will be awarded at the end of the three quarters of the seminar. Four of these 12 units may be applied to the upper-division units required of all majors. If a student is unabto complete the three quarters of seminar, a maximum of four units of credit will be given.

A three-quarter seminar, to be conducted as outlined in the description of the senior honors program. Honors candidates will write a senior thesis on a research topic of suitable depth and sophistication.

194BH. Senior Honors Seminar

(4) STAFF

Prerequisite: admission to senior honrs program. Twelve units of credit will be awarded at the end of the three quarters of the seminar. Four of these 12 units may be applied to the upper-division units required of all majors. If a student is unable to complete the three quarters of seminar, a maximum of four units of credit will be given.

A three-quarter seminar, to be conducted as outlined in the de of the senior honros program. Honors candidates will write a senior thesis on a research topic of suitable depth and sophistication.

194CH. Senior Honors Seminar

(4) STAFF

Prerequisite: admission to senior honors program. Twelve units of credit will be awarded at the end of the three quarters of the seminar. Four of these 12 units may be applied to the upper-division units required of all majors. If a student is unable to comlete the three quarters of seminar, a maximum of four units of credit will be given.

A three-quarter seminar to be conducted as outlined in the description of the snior honors program. Honors candidates will write a senior thesis on a research topic of suitable depth andstication.

195IA-IB. Senior Thesis — Public Policy

(4-4) STAFF

Prerequisites: admission to major in history of public policy, and completion of junior-year studies; consent of instructor. Students should enroll by instructor number. Eight units of credit will be awarded at the end of two quarters assigned for the thesis. This is a two-quarter in-progress course with letter grade issued for both quarters upon completion of History 195IB.

A two-quarter individual research project, under the direction of a history professor selected with the advice of the departmental advisor to public policy students.

196. Internship in History

(2-8) STAFF

Prerequisites: upper-division status, 3.0 overall grade-point average, and consent of department. Course may be repeated for up to 8 units.

This course enables students to obtain credit for history-related internship experience, such as in the Capitol Hill or Sacramento programs.The course is graded P/NP and must be taken in conjunction with History 199, for which a written project related to the internship experience must be completed.

199. Independent Studies

(1-S) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in history; 4) consent of department and instructor. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students must be majors in history or present justification to both the instructor and the department for diverting from this norm. No more than 8 units of History 199 may be applied to the majors in history or the History of Public Policy.

The description of any one 199 must not be identical to any existing course description.

GRADUATE COURSES

200E-AM-LA-AS-AF-ME-HS. Historical Literature

(4) STAFF

May be taken more than once.
E-Europe; AM-America; LA-Latin America; AS-Asia; AF-Africa; ME-Middle East; HS-History of Science.

A reading course in a general area of history, specifically designed to prepare M.A. candidates for their comprehensive examination fields, but also appropriate for Ph.D. students seeking broad preparation. Introduces the student to the sources, historiography, and general literature of the field in question.

201E-AM-LA-AS-AF-ME-HS. Advanced Historical Literature

(4) STAFF

May be taken more than once. Open to both M.A. and Ph.D. candidates.
E-Europe; AM-America; LA-Latin America; AS-Asia; AF-Africa; ME-Middle East; HS-History of Science.

A reading course in a field of the professor's specialty. Introduces the student to the sources and literature of the field in question. Written work as prescribed by the instructor. (Usually offered quarterly.)

201PP. Advanced Historical Literature

(4) STAFF

A reading course in a field of the professor's speciality. Introduces the student to the sources and literature of field in question. Written work as prescribed by the instructor.

202. Proseminar in Historical Methods

(4) STAFF

Normally required of all entering M.A. candidates other than those in public history. Open to other students on a space available basis.

A general introduction to selected historiographical issues and historical methods. (Offered every fall quarter.)

203. Research Seminar in American Historiography

(4) STAFF

Emphasis is on the writings of the great chroniclers of American history. One research paper is prepared.

204A-B. Historiography and Philosophy of History

(4-4) STAFF

Emphasis upon studies in philosophy of history. A long research paper will be prepared.

205A-B. Public Historical Studies

(4-4) KELLEY

Prerequisite: admission to graduate program in Public Historical Studies.

To acquaint students with relevant research methods (oral history, legal research, family history, government documents and sources, historical preservation, field research).

206. History and Theory

(4) STAFF

An introduction to the major theoretical debates within the historical profession over questions of epistemology, methodology, and interpretation. Focus will be on the challengeof contemporary theoretical movements, such as neomarxism, postmodernism, and feminism, to the study of history.

207. Historical Methods and the Social Sciences

(4) BROWNLEE, HARRIS, COHEN

Exploration of the application of social science theory and methodology, including quantitative analysis, to the historical study of social structure and mobility, demographic change, distribution of political power, voting behavior, legislative behavior, interaction of public policy and economic development, and distribution of income and wealth. (Usually offered annually in the fall.)

208. Problems of Historical Preservation

(4) OGLESBY

Prerequisite: graduate standing.

Problems of historical preservation using archives, museums, and historic sites and buildings of the Santa Barbara area as a laboratory.

209. The Academic Profession of History

(4) STAFF

A colloquium which explores the history and nature of the American university, seen comparatively, and the nature and history of the work-life and role of professors of history, with attention to ethical issues, the historical community, and the vocation of scholar-teacher.

210. Seminar in United States Social Policy

(4) STAFF

Research seminar in selected issues in United States social policy.

211A-B. Seminar in Greek History

(4-4) KALLETT-MARX

Prerequisite: reading knowledge of French, German or Italian.

Research seminar in Greek history. From time to time the seminar will be limited to candidates specializing in ancient history, and with a reading knowledge of classical Greek.

213A-B. Seminar in Roman History

(4-4) DRAKE

Prerequisite: reading knowledge of appropriate foreign language.

Selected topics in the history of the Roman Republic and Empire, with particular emphasis on problems of the later Roman Empire.

214A-B. Seminar in Medieval Church History

(4-4) RUSSELL

Prerequisites: consent of instructor.

Research seminar in the medieval church, especially movements of dissent and the history of concepts.

215A-B. Seminar in Medieval History

(4-4) HOLLISTER

Prerequisite: History 116.

A two-quarter course.

215E-F. Research Seminar in Medieval Social History

(4-4) FARMER

Prerequisite: History 117A.

A two-quarter graduate research seminar in medieval social history.

215G. Advanced Studies in Medieval History.

(4) HOLLISTER

Prerequisite: History 215

A one-quarter research seminar.

216A. Colloquium in Community History

(4) HARRIS

A reading course that explores a broad array of historical and social science approaches to the study of the community.

216B-C. Seminar in Community History

(4-4) STAFF

Designed to introduce M.A. and Ph.D. candidates to basic problems of doing ongoing research in community history; will examine role and activities of individuals, groups, institutions, associations, and corporations. Each year a different basic problem will be identified and students will carry out a research project as a team. Research will be carried out in Santa Barbara, with a close liaison with the Santa Barbara Historical Society.

217A. Colloquium in Cultural Resource Management

(4) STAFF

Colloquium in cultural resource management. A course of intensive readings in the identification, preservation, and interpretation of cultural resources. Includes such topics as cultural surveys, historic preservation, and impact mitigation.

217B-C. Seminar in Cultural Resource Management

(4-4) STAFF

A two-quarter research seminar involving team research and publication of results. Projects will include such tasks as cultural surveys, determination of significance, eligibility for inclusion on National Register, impact mitigation, and historic preservation.

218A. Colloquium in Public Policy

(4) STAFF

An intensive reading course in the development and elaboration of public policy formation and administration.

218B-C. Seminar in Public Policy

(4-4) STAFF

A two-quarter research seminar in the development and administration of public policy.

218D. Colloquium in Water Policy and Litigation Support

(4) STAFF

Prerequisites: graduate standing and consent of instructor.

Colloquium in natural resource management focusing on water policy in America from the Revolution to the present.

219A-B. Seminar in Women and Public Policy

(4-4) DE HART

Prerequisites: graduate standing or consent of instructor. A two-quarter in-progress sequence course with grades for both quarters issued upon completion of 219B.

A two-quarter research seminar involving readings on the history and theory of public policies relating to gender and gender justice in the United States and a research paper on various aspects of the topic.

220A-B. Seminar in Renaissance-Reformation

(4-4) FRIESEN

Prerequisite: reading knowledge of one western European language besides English.

Research seminar, stressing problems in comparative European social and intellectual history, 1450-1650.

222A-B. Seminar in Eighteenth-Century European History

(4-4) STAFF

Prerequisite: consent of instructor.

Selected topics in the history of Europe, 1715 to 1815.

223A-B. Seminar in Modern European History

(4-4) STAFF

May be taken more than once.

224A-B, Seminar on the History of Biology in the Twentieth Century

(4-4) STAFF

Prerequisite: consent of instructor.

Two-quarter seminar on biology in the twentieth century. The modern synthesis, population biology, ecology, genetic engineering.

226A-B. French Intellectual History

(4-4) STAFF

Prerequisite: History 201.

The idea of reason in 17th century France.

227A-B. Research Seminar in European Socialism, Nineteenth and Twentieth Centuries.

(4-4) LINDEMANN

229A-B. Seminar in Seventeenth-Century European History

(4-4) SONNINO

230A-B. Seminar in European Economic History

(4-4) MOURÉ

Prerequisite: reading knowledge of appropriate foreign languages.

Research seminar in selected issues in European economic history.

235A-B. Seminar in Russian History

(4-4) HASEGAWA

Prerequisite: reading knowledge of Russian, German, or French, or consent of instructor.

236A-B. Seminar in East European and Baltic History

(4-4) STAFF

A two-quarter research seminar, including discussion of topics in modern Balkan history and the Eastern question, individual research and final paper.

237A-B. Seminar in Modern German History

(4-4) MARCUSE

238A-B. War Studies

(4-4) TALBOTT

Open to qualified undergraduates with instructor's approval.

A two-quarter research seminar on topics in war, the state, and society since 1789. Origins and consequences of wars and the political, social, and economic aspects of both land and sea warfare will be considered.

240A-B. Seminar in Tudor-Stuart History

(4-4) MCGEE

Research seminar in Tudor-Stuart history; selected topics requiring use and interpretation of primary sources.

241A-B. Seminar in Modern British History

(4-4) GOLLIN

Research seminar. Students must take two consecutive quarters.

242A-B. Seminar in Early Twentieth-Century British History

(4-4) GOLLIN

Prerequisite: consent of instructor.

244. Research Seminar in the History of the First World War

(4) STAFF

Prerequisites: graduate standing and consent of instructor.

One quarter seminar in the political, military, social, and air history of the first World War, emphasis on Great Britain. Research paper required.

245A-B. Seminar in Islamic History

(4-4) HUMPHREYS

Prerequisites: consent of instructor and graduate standing.

Research seminar on selected topics in the social and political history of the Islamic Middle East between A.D. 600 and 1700. Language requirements will vary.

246. Seminar in the Modern History of the Middle East

(4) GALLAGHER

Prerequisite: History 146A or 146B.

Research seminar stressing the movements of nationalism, revolution, and change that have characterized the modern history of the Middle East since 1850.

248A-B. Research Seminar in African History

(4-4) COLLINS

Prerequisite: History 201.

Designed to provide graduate students with the opportunity to explore in depth one or more of the subjects with which they have become acquainted in History 201.

249A-B. Seminar in Chicano History

(4-4) GARCIA, VARGAS

This two-quarter research seminar will explore various facets of Chicano history, but will concentrate on the twentieth century. Besides examination of the literature, research projects will cover immigration, labor, women, the Mexican-American generation, and the Chicano movement.

251A-B. Seminar in Latin American History

(4-4) CLINE

Prerequisites: graduate standing; reading ability in Spanish. Two-quarter sequence course; final grade given upon completion of History 251B.

A two-quarter research seminar on a given topic. Topics may include religion and politics from the colonial era to the present, colonial Indians, evolution of Latin American society, methods of social history.

252A-B. Seminar in Social and Intellectual History of Modern Latin America

(4-4) LINDO-FUENTES

Prerequisites: History 201; History 151B-C, History 152B or consent of instructor.

Seminar on nationalism in Latin America.

253A-B. Special Seminar in Latin American History

(4-4) ROCK

A two-quarter seminar. Available on demand.

Discussion meetings for postgraduates. Reading, research, and writing in the history of Latin America in subject of student's choice.

254A-B. Latin America, Spain, and Portugal

(4-4) DUTRA

Prerequisite: reading knowledge of Spanish or Portuguese required (in special cases, French, German, Dutch, or Italian acceptable.)

Individual reading, research, and writing in the history of Spain, Portugal, and their empires in the Americas, Africa, and Asia. For Brazil and Mexico, national periods included.

256A-B. Seminar in Mexican History

(4-4) CLINE

Prerequisites: graduate standing or consent of instructor; reading knowledge of Spanish. This is a two-quarter in-progress course with grades for both quarters issued upon completion of History 256B.

A two-quarter seminar on selected topics in the socioeconomic history of colonial Mexico.

257A-B. Seminar in Luso-Brazilian History

(4-4) DUTRA

Research seminar with particular stress on Portuguese, Spanish, and Brazilian archival materials. Course will provide graduate students with opportunity to analyze problems in the history of Portugal and her overseas empire with special emphasis on Brazil.

259A-B. Seminar in American Social History

(4-4) COHEN

A two-quarter research seminar on selected topics in the "new" social history, including the history of women and the family. (Offered infrequently.)

260A-B. Seminar in American South

(4-4) HARRIS

Research in nineteenth- and twentieth-century Southern history.

261A-B. Seminar in Colonial and Revolutionary America

(4-4) STAFF

A two-quarter research seminar on colonial and revolutionary America.

263A-B. American Immigration

(4-4) BONADIO

A research seminar in the history of American immigration, particularly during the nineteenth and early twentieth centuries.

264A-B. Seminar in Civil War and Reconstruction

(4-4) BONADIO

265. Seminar in American Political and Social History

(4-4) HARRIS

Research in selected historical problems, focusing on analysis of political behavior, social structure, and social mobility. (Usually offered biannually in winter and spring.)

266A-B. Research Seminar in Recent U.S. History

(4-4) KALMAN

A research seminar for graduate students interested in any aspect of recent U.S. history.

267A-B. Seminar in American Economic History

(4-4) BROWNLEE

268A-B. Seminar on Ethnicity and Community

(4-4) STAFF

Prerequisites: open to qualified undergraduates with consent of instructor.

A two-quarter research seminar on historical development of ethnic communities in the United States. Focus on community institutions such as the family, the church, voluntary associations, and the ethnic press. Particular research emphasis will be on Santa Barbara and Southern California ethnic communities.

269A-B. Seminar in American Urban History

(4-4) CALLOW

Student must take two consecutive quarters.

270. Seminar in Tangible Resources — Environmental History

(4) NASH

Study of the value and management of the visible past. Emphasis on the ways public agencies like the National Park Service designate and display historic buildings, trails, villages, and ways of life. Mandatory and optional field trips. Career opportunities stressed.

271A-B. Seminar in Diplomatic and Political History of the United States

(4-4) LOGEVALL

Student must take two consecutive quarters.

272A-B. Seminar in American Political and Intellectual History

(4-4) KELLEY

Prerequisites: graduate standing and consent of instructor. A two-quarter in progress seminar.

General research seminar on the history of politics and ideas in the United States, broadly conceived.

273A-B. Research Seminar in American Social and Intellectual History
(4-4) NASH

275A-B. American Cultural History
(4-4) STAFF

Student must take two consecutive quarters.

276. Seminar in American West and California
(4-4) OGLESBY

Student must take two consecutive quarters.

277A-B. Topics in the History of Science
(4-4) BADASH

Research seminar selected from such topics as Babylonian astronomy, Greek science, Age of Newton, rise of modern physics, scientific instruments, nationalism/internationalism in science, science and society, sociology of science, public conceptions of science, organization and profession of science. (Offered periodically.)

278A-B. Science in Twentieth-Century America
(4-4) BADASH

The atomic age—the background to the atomic bomb, its development, use, and postwar problems. (Offered periodically.)

279. Research Seminar in History of American Business
(4) BROWNLEE

Readings in the history of American business. The course surveys market strategies, the development of corporate hierarchies, the role of the economic, cultural, and political environments shaping business behavior, and the effect of business on both the economy and American society at large.

280A-B. Seminar in Modern China
(4-4) ELLIOTT

Prerequisites: History 185A-B.

A research seminar in the important aspects of modern Chinese history. (Offered annually.)

284A-B. Seminar in the History of Chinese Thought
(4-4) CHEN

Prerequisites: History 19 or 186A-B, or consent of instructor.

Selected studies of leading thinkers on important schools of thought. A two-quarter seminar.

286A-B. Seminar in Premodern Chinese History
(4-4) CHEN

Prerequisites: History 86 or 87, or 186A-B-C, or consent of instructor.

Research on special topics on ancient, medieval, or early modern China. A two-quarter seminar.

287A-B. The Origins of Korean Civilization
(4-4) PAI

Prerequisites: consent of instructor. Reading knowledge of Korean or Japanese is strongly recommended. This is a two-quarter in-progress sequence course, credit will be given upon completion of History 287B.

Examination of the rise of civilization in Korea in the context of the development of complex societies and states of China and Japan. Anthropological models of acculturation, adaptation, culture change, regional interaction and state formation are discussed

288A-B. Seminar in Japanese History
(4-4) ROBERTS

Prerequisite: consent of instructor.

A two-quarter research seminar on selected problems in Japanese history. Some working knowledge of the Japanese language desirable but not necessary.

289A-B. Sino-Japanese Cultural and Political Relations, 1850-1945
(4) FOGEL

Prerequisite: knowledge of Chinese and/or Japanese

Reading and research seminar on the inter-relationship between Chinese and Japanese history from the first modern contacts until the end of World War II. Emphasis on cultural and political interactions.

291. Seminar in American Legal History 1890 to 1960
(4) KALMAN

Prerequisite: consent of instructor. Open to undergraduates with consent of the instructor.

A survey of American legal history from 1890 to the present, with special emphasis on the Supreme Court, legal theory, legal education and private law.

292A. Foundations of U.S. History to 1846
(4) STAFF

A colloquium introducing the important issues, themes, and literature in the history of the United States, from colonial origins to 1846. Historiographical in nature, the course assumes a basic familiarity with the period.

292B. Foundations of U.S. History, 1846-1917
(4) STAFF

A colloquium introducing the important issues, themes and literature in the history of the United States, from 1846 to 1917. Historiographical in nature the course assumes a basic familiarity with the period.

292C. Foundations of U.S. History, 1917-Present
(4) STAFF

A colloquium introducing the important issues, themes, and literature in the history of the United States, from 1917 to the present. Historiographical in nature, the course assumes a basic familiarity with the period.

The following courses are reserved for advanced study and research:

500. Laboratory for Teaching Assistants
(2-4) STAFF

Units do not apply toward completion of the Ph.D. requirement. Required each quarter for teaching assistants.

Subject oriented, designed to relate directly to the teaching of a particular course in progress, to improve the skills and effectiveness of the department's teaching assistants.

501. The Art of Teaching History
(2-4) STAFF

Prerequisites: graduate standing; admission to Ph.D. program or M.A. destined for postsecondary teaching. Units do not apply toward completion of graduate degree.

A seminar course on the art and methods of teaching history including practical experience in the classroom. Audiovisual aids will be used in evaluating teaching techniques. Graduate students who wish to become teaching assistants are strongly advised to take this course.

502. Research Practicum
(2-4) STAFF

Units do not apply toward completion of graduate degree.

Directed research in history for research assistants, etc.

503. Tools of Historical Research
(2-4) STAFF

Units do not apply toward completion of graduate degree.

Auxiliaries to the study of history including paleography, computer languages, computer editing, foreign language, archival techniques, statistics, textual criticism, bibliographical tools, and other related techniques.

594AA-ZZ. Special Topics
(4) STAFF

May be taken more than once.

Special seminar on research subjects of current interest.

596. Directed Reading and Research
(2-12) STAFF

Prerequisites: graduate standing and consent of instructor. Minimum of 2 units per quarter.

Individual tutorial. Instructor usually student's major professor. Each faculty member has a unique letter designation available from graduate secretary.

597. Independent Study for Master's Comprehensive Examinations and Ph.D. Examinations
(2-12) STAFF

No Unit credit allowed toward advanced degree.

599AA-ZZ. Ph.D. Dissertation Preparation
(2-12) STAFF

Prerequisites: graduate standing and consent of instructor.

Only for writing the dissertation. Instructor should be the chair of the student's doctoral committee. Each faculty member has a unique letter designation available from graduate secretary.

Interdisciplinary Courses

1. Library Skills
(1) STAFF

Available P/NP only; may not be repeated for credit.

Course designed to assist entering students in learning to use effectively essential facilities and resources of the UCSB Library.

5. A Survey of Computing for the Arts and Humanities
(4) MARCUS

Prerequisite: Not open to pre-computer science or computer science majors.

An introduction to computing for students in the arts and humanities. BASIC, PASCAL, applications programs. Course will use the UCSB Microcomputer Laboratory.

10. Introduction to Grammatical Categories and Analysis
(2) HETZRON

Introduction to the college level study of foreign languages from a linguistic point of view. Survey of grammatical categories, grammatical syntactic analysis, illustrated, when possible, through English. Clarification of concepts to provide the needed common ground for college students of languages, linguistics, and English.

20. Introduction to the University
(3) STAFF

Prerequisite: Freshman standing required. Not open to students who have completed sociology 10.

A course designed to introduce first year students to the university. Topics include: the university as a community of scholars, student sub-culture, student rights, university and community, university as policy, personal growth in college.

40. Introduction to Peace Studies
(4) STAFF

Approaches to "negative peace" (peace as the absence of war) and to "positive peace" (peace as human rights, social justice, political participation, economic development, ecological balance). Theories of conflict and conflict resolution at personal, social, and international levels.

60. Introduction to Folklore
(4) LUNDELL

Introduction to folklore genres with a multicultural perspective. Definitions, theories, collection of folklore. Proverb. Riddle. Children's folklore. Folktale. Legend. Myth.

94AA-ZZ. Freshman Seminars
(1) STAFF

Prerequisite: freshman standing or consent of instructor.

Selected topics of interest to students pursuing various degrees in the College of Letters and Science. Small group discussions which emphasize active class participation. Topics will vary each quarter.

100. Library Research Bibliography I
(2) STAFF

Available P/NP only; may not be repeated for credit.

The goal is to develop a high level of library competence. A critically annotated and extensive bibliography is a central course requirement. The course is recommended for students concurrently registered in any course which has a research project requirement.

101H. Contemporary Public Issues
(2) STAFF

Prerequisites: membership in Letters and Science honors program and upper-division standing. Course may be repeated for credit to a maximum of 4 units.

A course dealing with social and political issues of national concern. Readings will be assigned from several disciplinary perspectives; and campus presentations such as lectures and plays will be incorporated as appropriate.

106. The Picaresque Novel in Western Europe and America
(4) HOFFMEISTER

Prerequisite: upper-division standing or consent of instructor.

An interdisciplinary course about the rise of the rogue's novel in Spain and its transformation in various national literatures; combining an overview of theoretical problems with the close interpretation of masterpieces of this genre from Lazarillo de Tormes to Saul Bellow's The Adventures of Augie March. Taught in English.

110. Motther in Myth and Tales
(4) LUNDELL

Prerequisite: upper-division standing or consent of instructor.

The mother as goddess and in her secular reality is discussed using myths, folktales and legends from Native Americans, African Americans, Chicano/Latinos, Asian Americans, and Germanic cultures.

118A. Seminar on Computer-Assisted Textual Analysis
(4) GOTTSCHALK, LEW

Prerequisite: upper-division standing or consent of instructor. Not open for credit to students who have taken German 118A.

Interdisciplinary introduction for undergraduates in the humanities to the application of computer technology to the comparative analysis of literary or nonliterary texts in English or foreign languages. Taught in English.

118B. Seminar on Computer-Assisted Textual Analysis
(4) GOTTSCHALK, LEW

Prerequisite: Interdisciplinary 118A or equivalent. Not open for credit to students who have completed German 118B.

Continuation of Interdisciplinary 118A.

130. Animals in Human Society: Animal Use Issues
(4) SHELTON

Prerequisite: upper-division standing or consent of instructor.

A study of the historical and modern uses which humans make of other animals for food, clothing, labor, entertainment, research and pets, and exploration of the changing attitudes toward these uses.

140. Theory and Practice of Nonviolence
(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Critical examination of nonviolence as philosophy of life and as pragmatic approach to conflict resolution. Philosophical, psychological, cultural, political aspects. Major theorists of nonviolence, including Gandhi, King, and Sharp. Application to conflict at all levels: interpersonal, intergroup, and international. Case studies.

150. Voices of the Stranger
(4) CAPPS

Prerequisite: upper-division standing.

Portrayals and analyses of the diversity of ethnic, racial, cultural, and religious experience in the United States in the contemporary era.

180H. Culture in History and Anthropology
(4) HATCH, TALBOTT

Prerequisites: upper-division standing and enrollment in college, anthropology, or history honors program.

This is a seminar on recent developments in both history and anthropology concerning the nature of culture and human understanding. The course will emphasize both empirical or interpretive studies and the theoretical literature on these issues.

181H. Literary Translation: Theory and Practice
(4) LEVINE, LÉVY

Prerequisites: upper-division standing and enrollment in college, Spanish, or French honors program.

Critical and theoretical work on selected Hispanic and French writers will be studied along with literary, philosophical, and linguistic texts. Students will work on an independent translation project in addition to a paper on critical or theoretical aspects of translation.

183H. Gender and Feminist Studies: Literary and Anthropological Perspectives
(4) CARLSON, YANG

Prerequisites: upper-division standing and enrollment in college, English, or anthropology honors program.

This course draws from literary studies and cultural anthropology to explore gender as a cultural category demarcating social difference. Students will read primary literary texts, ethnographic texts describing specific cultures, and theoretical and critical writings on gender and feminism.

184AA-ZZ. Honors Forum: Special Topics
(4) STAFF

Prerequisites: membership in Letters and Science Honors Program and upper-division standing. Course may be repeated up to 16 units provided the letter designations are different.

An interdisciplinary approach to topics of national and world concern. Readings will be assigned from several disciplinary perspectives.

185AA-ZZ. Interdisciplinary Honors Seminar in the Humanities
(4) STAFF

Prerequisite: consent of instructor.

Interdisciplinary examination of selected topics, texts, theories, and/or methods in the humanities. Particular course focus will be determined by the instructor(s) each time the course is offered.

188A. Classicism and Romanticism in European Letters and Music
(4) KITTLER, FREEMAN

Prerequisites: recommended reading knowledge of music and one or more European languages.

The interaction between European music and letters, from 1700-1815, considered through the aesthetic concepts of classicism and romanticism.

190AA-ZZ. Interdisciplinary Studies Senior Project
(4) STAFF

Prerequisites: only open to liberal studies or interdisciplinary studies majors. Senior standing only.

Working with a faculty member in one of the departments of concentration, completion of a substantive project which integrates the theme proposed in the liberal studies or interdisciplinary studies major program.

192DC. Washington Center Internship
(4-8) STAFF

Prerequisite: upper-division standing. consent of instructor. Acceptance to Washington Center.

Courses designed for students to obtain credit for internship while at the Washington Center.

197A-B. Global Peace and Security
(4-4) BOURAAD-NASH

Prerequisite: upper-division standing or consent of instructor.

A: Fundamental issues relating to global peace and security: historical, political, economic, technical, military, environmental, ethical, and sociological. Preliminary planning of essay. Required for certification in global peace and security.

B: Continuation of Interdisciplinary 197A. Increased emphasis on the preparation of the required essay.

199DC. Independent Research at Washington Center
(1-5) STAFF

Prerequisite: upper-division standing. Consent of instructor. Acceptance to Washington Center.

Independent research for those enrolled in the Washington Center. Enrolled students will complete a research project related to the students' intership and drawing on the special resources of the Washington area.

201AA-ZZ. Graduate Seminar in the Humanities
(4) STAFF

Prerequisite: consent of instructor.

Interdisciplinary examination of selected topics, texts, theories, and methods in the humanities. Particular course focus will be determined by the instructor(s) each time the course is offered.

250. Seminar in the Teaching of Academic Writing
(2) STAFF

Prerequisite: graduate standing.

Writing clearly, purposefully, in accord with the conventions of various academic disciplines and teaching others to do the same. Computer-assisted writing, readins in rhetorical theory; vinternship opportunities.

251. Academic Research Writing
(2) STAFF

Prerequisite: graduate standing. Course may be repeated.

Writing of graduate academic documents, including course papers, theses, writing for publication. Emphasis on writing clearly, mastering disciplinary conventions. Lecture plus writing lab.

288A. Classicism and Romanticism in European Letters and Music
(4) FREEMAN, KITTLER

Prerequisite: recommended reading knowledge of music and one or more European languages.

The interaction between European music and letters from 1770-1814, considered through the aesthetic concepts of classicism and romanticism.

592. Research Seminar in Human Development
(1) STAFF

Prerequsite: acceptance to Interdisciplinary Development Program.

Special interest group research seminar in human development.

594AA-ZZ. Advanced Studies in the Humanities
(4) STAFF

Prerequisite: consent of instructor.

In-depth consideration of selected cross-disciplinary humanistic topics, issues, and concerns. Special focus will be determined by the instructor or instructional teams each time the course is offered.

Other Interdisciplinary Courses

Medieval Studies: see 100 and 199
Renaissance Studies: see 100 and 199

Interdisciplinary Studies

Interdisciplinary Studies,
Office of Student Academic Affairs,
College of Letters and Science,
Cheadle Hall 2119;
Telephone (805) 893-2038

The major in interdisciplinary studies was created to provide a means for students to achieve particular intellectual goals that cannot be met by any existing major. Students are urged to consult with a college adviser early in their academic careers for assistance in formulating their objectives within the major and in identifying the courses at UCSB which will best fulfill those goals.

Students wishing to enter the major must draw up a proposed program of study in three separate departments according to the requirements listed below. After approval by the chairs of the selected departments and review by the office of the dean, the proposal is submitted to the executive committee of the College of Letters and Science, which has sole authority for approving admission to the major. The executive committee evaluates proposals according to a combination of the following criteria: (1) overall coherence and academic integrity of the proposed set of courses to be taken in each department; and (2) rationale for the choice of major departments, as explained in a statement of purpose submitted by the student.

The program approved by the executive committee constitutes a contract and may be altered only by petition to the committee.

Applications for admission to the major are available in the college office, Cheadle Hall 2119. The entire process of admission—from first picking up application papers to final approval by the committee—can take several months. Interested students are advised, therefore, to begin the process during their sophomore year, and in no case later than the end of their junior year. Applicants to this program cannot be admitted until they achieve junior standing. Those who have reached their senior year will be admitted only in exceptional circumstances.

The interdisciplinary studies major does not automatically exempt prospective teaching credential candidates from the Multiple Subject Assessment for Teachers (MSAT). For such exemptions, students must complete the Multiple Subject Preparation Program (MSPP), as described in the Announcement of the Graduate School of Education. Students interested in UCSB's credential requirements are urged to consult the Graduate School of Education in Phelps Hall 1180 as soon as possible.

Students who intend to pursue graduate or professional studies are urged to consult advisers in their proposed fields to determine the prerequisites for admission to the desired graduate programs. The specific areas of emphasis within interdisciplinary studies will not be noted on student transcripts.

Bachelor of Arts—Interdisciplinary Studies

Preparation for the major. A minimum number of lower-division courses as specified by each of the three selected departments must be completed. A list of the current requirements for each department may be obtained at the department office or the college office, Cheadle Hall 2119. At the time of application for the major, the student must have earned a grade-point average of at least 2.0 in each academic department making up the major. Interdisciplinary studies majors are required to complete all college and university degree requirements, including the General Education program.

Upper-division major. A minimum of 56 upper-division units, selected from three departments in the College of Letters and Science, with at least 16 units in each department. Some departments allow only a restricted number of their upper-division courses to be applied to this major. Students should ask at the office of prospective departments, or the college office, for a current list of courses that will be accepted for the interdisciplinary studies major. Upper-division courses which are accepted in transfer from other four-year colleges and universities will be accepted for major credit in appropriate departments only if they conform to courses approved for the major in that department. Different foreign languages are considered to be in different departments. Courses in military science and physical activities are not acceptable for the major, nor are Economics 109, Geology 101, 116SS, Mathematics 100A-B, Political Science 100, or adjunct writing courses, although some of these courses may be acceptable as preparation for the major. No more than 12 units of performance courses (Dance 149, Dramatic Art 149, Music Activities, or equivalent transfer courses) in all departments combined will apply to the major, and no more than 4 units of such courses may be taken in any single department. Courses which are to be applied to the major may not be taken on a passed/not passed basis.

Senior thesis or research project requirement. As a means of tying together the various strands of their study in a coherent and academically significant fashion, interdisciplinary studies majors are required to complete at least one 4-unit course in one of the three selected departments in which a senior thesis or research project will be completed. A list of suitable courses is available at department offices and the college office.

Latin American and Iberian Studies

Program in Latin American and
Iberian Studies,
Division of Humanities and Fine Arts,
Phelps Hall 4206;
Telephone (805) 893-3161
Program Chair: Ellen McCracken

Advisory Committee

Sarah Cline, Ph.D. (History)
Francis A. Dutra, Ph.D. (History)
John Foran, Ph.D. (Sociology)
Victor F. Fuentes, Ph.D. (Spanish)
Suzanne Jill Levine, Ph.D. (Spanish)
Fernando Lopez-Alves, Ph.D. (Political Science)
Ellen McCracken, Ph.D. (Spanish)
Giorgio Perissinotto, Ph.D. (Spanish)
Barbara Voorhies, Ph.D. (Anthropology)

Affiliated Faculty

Mark Aldenderfer, Ph.D. (Anthropology)
Silvia Bermúdez, Ph.D. (Spanish and Portuguese)
Manual L. Carlos, Ph.D. (Anthropology)
Mario T. Garcia, Ph.D. (History)
Carl Gutierrez-Jones, Ph.D. (English)
Francisco A. Lomelí, Ph.D. (Spanish and Portuguese)
Juan-Vicente Palerm, Ph.D. (Anthropology)
Sara Poot-Herrera, Ph.D. (Spanish and Portuguese)
David P. Rock, Ph.D. (History)
Ines Talamantez, Ph.D. (Religious Studies)

The Program in Latin American and Iberian Studies offers interdisciplinary training leading to the Bachelor of Arts and Master of Arts degrees. The undergraduate program is designed for students broadly interested in the areas, those interested in the culture and art, those planning professional careers in business or government, those entering the teaching profession in fields such as language or social science, and those planning further academic study of Latin America, Spain, or Portugal.

Latin American and Iberian Studies may be taken as part of a double major in combination with another discipline such as history, anthropology, or economics, subject to an 8-unit limit on overlapping upper-division courses.

Students are encouraged to study abroad in Brazil, Mexico, Peru, or Spain through the university's Education Abroad Program. Transfer credit may be given for study at other universities in Latin America, Spain, or Portugal.

Subject to prior approval by the advisory committee, students may receive academic credit for an internship in an international or development agency or other relevant employment. The internship will be done in conjunction with an independent study course supervised by a faculty member.

Seniors who have maintained a 3.6 average in courses in the major are eligible for the honors program. With approval of the chair, students will select an adviser who will direct the project. In two quarters, the student will pursue research and writing on a topic of importance and complexity, resulting in an honors thesis.

After completing specific prerequisites, students with a bachelor's degree in Latin American and Iberian Studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Latin American and Iberian Studies Annual Lecture. The advisory committee sponsors an annual lecture by a distinguished visiting lecturer.

Undergraduate Program

Bachelor of Arts—Latin American and Iberian Studies

Preparation for the major. Spanish 6, or Portuguese 6, or a written translation test from Spanish or Portuguese into English. Native-speaking knowledge of the language or credit in courses taken elsewhere demanding a comparable level of proficiency will be considered equivalent. History 8 is a requirement in preparation for the major.

Upper-division major. A minimum of 40 units, including Latin American and Iberian Studies 100, Undergraduate Proseminar (4 units), at least 16 upper-division units in one of the four areas below, and the other 20 to be distributed among the other three areas, with a minimum of one course in each area.

Area 1.

Social Sciences: Anthropology 104H, 122, 130, 133, 134, 135, 137, 141, 148A-B, 150, 163B, 164, 165, 168, 169, 187A, 190, 193, 194, 197; Chicano Studies 115, 120, 130A-B, 131, 138, 139, 140, 141, 144, 154F, 155R-W, 164, 170A-B, 171, 172, 174, 175, 178, 189, 194, 197; Communication 135, 161; Economics 114, 180, 181, 190; Environmental Studies 122, 130A-B-C; Linguistics 130, 131, 175; Political Science 105, 109, 132, 134, 148A-B, 174; Portuguese 125A-B; Religious Studies 105, 114A-B-C-D, 126; Sociology 123, 128, 129, 130, 130LA, 134, 134R, 144, 150, 156; Spanish 119A-B, 176, 177, 178, 180.

Area 2.

Art History, Music, and Film: Art History 154B-C-D-E, 161C-D-E, 163B; Chicano Studies 143, 145, 146, 147, 148, 186A-B, 195; Music 174A, 194B; Portuguese 128; Sociology 134F; Spanish 126, 127, 174.

Area 3.

History: Chicano Studies 167, 168A-B-E-G-H-P, 169; History 108P, 150A-B-I-P, 151A-B-C-P, 152A-B-C-P, 153, 153L-P, 154A-B-P, 155A-B-P, 156A-B-P, 157A-B-C-P, 158, 158L.

Area 4.

Literature: Chicano Studies 137, 180, 181, 187, 188A-B-C, 190; Portuguese 102A-B, 105A-B-C, 114, 115, 120, 132A-B, 150AA-ZZ, 170, 180, 183AA-ZZ, 184AA-ZZ, 185, 189; Spanish 100, 101, 102A-B-C, 103, 104, 105, 106, 107, 109, 110A-B-C-D, 111A-B-C, 112, 114A-B-C, 115A-B, 116, 117, 118A-B, 120A-B, 121, 122A-B, 123A-B, 131, 132, 134, 136, 137A-B, 138, 140A-B, 141, 142A-B, 150, 151, 152, 161, 165, 170, 171, 172, 175, 181, 182, 183AA-ZZ, 184, 185, 187A-B, 188, 189, 190, 191, 192.

Graduate Program

In addition to program requirements, candidates for graduate degrees must fulfill the university degree requirements found in the chapter "Graduate Education at UCSB."

Master of Arts—Latin American and Iberian Studies

The M.A. in Latin American and Iberian Studies is designed for students wishing to pursue an interdisciplinary degree at the immediate post-baccalaureate level. While there is no doctoral program in Latin American and Iberian Studies, many successful graduates of the M.A. program pursue doctoral study in traditional academic departments such as anthropology, communication studies, economics, history, literature, or political science, or enter professional schools to study business administration, education, law, or public health. The broad, interdisciplinary nature of the program allows students a great deal of scope to define and develop special interests.

Admission

Students who wish to work toward the M.A. in Latin American and Iberian Studies must meet the general requirements for admission to graduate standing. Completion of the undergraduate major in Latin American and Iberian Studies is desirable but not necessary. Undergraduate deficiencies as stipulated by the Latin American and Iberian Studies committee must be remedied within the first year and do not count toward the minimum course requirements for completion of the M.A.

Language Requirement

A strong reading knowledge of Spanish or Portuguese is required. The student must show proficiency in either language through courses taken or through a reading examination. It is expected that the candidate will satisfy this requirement during the first quarter of the graduate program. In no case may a student take the comprehensive examination or submit a thesis until the foreign language requirement has been met.

Degree Requirements

Students will plan their programs with an adviser in their major area of concentration, selected from the affiliated faculty and with the approval of the chair.

All graduate students are required to take the proseminar in Latin American and Iberian Studies. The course has two purposes. It is designed (1) to provide a broad overview of the fields available at UCSB; and (2) to provide insight into the particular interests and approaches of the faculty who teach Latin American and Iberian courses at UCSB. The presentations by UCSB faculty will allow graduate students to select an adviser and to find promptly an area of interest for their continued studies in the program.

Two M.A. plans are available. Under Plan 1 (thesis), at least 32 units of upper-division and graduate coursework in Latin American and Iberian Studies plus a thesis (6 additional units, Latin American and Iberian Studies 598) are required. The 32 units must include no fewer than 20 units at the graduate level. The distribution of units should be 16 units in the major area (department) of concentration, 8 units in the second area of concentration, and the remaining 8 units from two other areas. Students wishing to write a thesis must carefully prepare a proposal, including provisions for funding of any field research. The thesis proposal must be approved by a thesis committee. The final draft of the thesis itself must be approved by that committee, and by the chair of Latin American and Iberian Studies. Under Plan 2 (comprehensive examination), at least 36 units of upper-division and graduate coursework in Latin American and Iberian studies are required, including no fewer than 24 units at the graduate level. Distribution of courses should be 16 units in one area (department), 12 units in a second area, and the remaining 8 units in two other areas. A comprehensive two-part examination will be required, based on coursework and on a reading list previously approved by the advisers in consultation with the chair.

Graduate Courses in the M.A. Program

Anthropology 209, 225, 235, 236, 237B, 238; Art History 254, 262A-B-C, 254; Communication 235; Economics 214A-B, 280A-B; Education 270AE-B-D-F-G-H, 274; History 200LA, 201LA, 249A-B, 250, 252, 253, 254, 256, 257, 268A-B; Latin American and Iberian Studies 200 (proseminar); Linguistics 240; Music 274A; Political Science 282A-B; Portuguese 205A-B-C, 206A-B-C, 221A-B, 222, 232A-B, 240, 245, 250, 255, 260, 265, 283, 294A-B, 295A-B; Sociology 265, 265LA; Spanish 200, 202, 207, 209, 210A-B-C, 211A-B-C, 212A-B, 213, 214, 218, 221A-B, 222A-B, 224A-B, 230A-B-C-D-E-F, 240A-B, 245, 260, 270, 275, 280, 283, 285, 290, 294A-B, 295A-B, 296A-B.

Latin American and Iberian Studies Courses

UPPER DIVISION

100. Proseminar

(4) STAFF

Prerequisite: upper-division standing. Required for all majors in the program.

Designed to acquaint students with current research on the main areas of Latin American and Iberian Studies.

195A-B. Senior Honors Thesis

(4-4) STAFF

Prerequisites: admission to honors program, 3.6 grade-point average for courses in Latin American and Iberian Studies, consent of program chair. Eight units credit will be awarded at the end of two quarters. This is a two-quarter in-progress course with letter grade for both quarters assigned upon completion of 195B.

A two-quarter research project, under the direction of a faculty member associated with the Latin American and Iberian Studies program. Students will write a major interdisciplinary research paper on a topic of sufficient depth and sophistication.

196. Internship

(2-8) STAFF

Prerequisites: upper-division standing, 3.0 grade-point average, and consent of program chair. The course is graded P/NP and must be taken with Latin American Iberian Studies 199.

The course enables students to obtain credit for Latin American- or Iberian-related internship experience.

199. Independent Studies

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point *average for the preceding three quarters; 3) have completed at least two upper-division courses in core program of the major. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. May be repeated to a maximum of 8 units.*

The description of any one 199 must not be identical to any existing course description.

GRADUATE COURSES

200. Proseminar
(4) STAFF
Required for all graduate students in the program.

Designed to acquaint students with current research on the main areas of Latin American and Iberian Studies as well as the faculty associated with the program.

201AA-ZZ. Special Topics
(4) STAFF
Prerequisite: graduate standing.

Varying topics of an interdisciplinary nature.

596. Directed Reading and Research
(2-4) STAFF
Prerequisite: graduate standing

Individual independent study which could include work with the Education Abroad Program. A written proposal for each tutorial must be approved by student's program adviser and by the department chair. The number of units that a student may take depends on the nature of the program and the consent of the adviser or the graduate committee.

597. Individual Study for M.A. Comprehensive
(2-8) STAFF
Prerequisite: graduate standing. No unit credit allowed toward advance degrees.

Individual study for M.A. comprehensive. Instructor should be student's major professor or chair of advisory committee.

598. Master's Thesis Research and Preparation
(1-6) STAFF
Prerequisites: fulfillment of all graduate requirements except the thesis.

Only for research and writing of the thesis, under the direction of a faculty member in the program and with the approval of the chair.

Law and Society

Law and Society,
Division of Social Sciences,
Ellison Hall 3835;
Telephone (805) 893-2318
Program Chair: Gayle Binion

Advisory Committee

Stanley V. Anderson, LL.B., Ph.D. (Political Science)

Randolph Bergstrom, Ph.D. (History)

Gayle Binion, Ph.D. (Political Science)

Sarah Fenstermaker, Ph.D. (Sociology)

Gerald Horne, Ph.D. (Black Studies)

Laura Kalman, Ph.D. (History)

Daniel G. Linz, Ph.D. (Communication)

Mattison Mines, Ph.D. (Anthropology)

A.E. Keir Nash, Ph.D. (Political Science)

Llad Phillips, Ph.D. (Economics)

John R. Sutton, Ph.D. (Sociology)

The law and society major seeks to understand the nature of law and legal institutions from a variety of perspectives. The program is interdisciplinary, and is designed to benefit both the student who desires a liberal education and the student who intends to enter graduate or law school.

In addition to the basic major, the program offers an emphasis in criminal justice, stressing the study of criminal justice as a social science. The criminal justice emphasis is supplemental to the basic major and requires an additional 12 units of upper-division coursework. Successful candidates will have the emphasis noted on their transcripts and recognized on their diplomas. The law and society undergraduate adviser is available on a regular basis to assist students with questions related to all academic matters, including the honors program.

Graduates of the law and society major have entered careers ranging from urban planning, court management, probation, counseling, and legal practice, to federal, state, and local government service. Many professional programs are open to law and society majors, including advanced degree programs in the social sciences and judicial administration, as well as law school and paraprofessional legal training.

After completing specific prerequisites, students with a bachelor's degree in law and society are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Bachelor of Arts—Law and Society

Preparation for the major. Core course requirements: Philosophy 3; Political Science 12 or 100; Sociology 1 or 101; Law and Society 1 and 2; and Economics 5, or PSTAT 5AA-ZZ, or Psychology 5, or Sociology 3. Elective requirements (two courses from the following): Anthropology 2; Black Studies 6, 20; Economics 1, 2, or 109; Environmental Studies 11; History 4A-B-C, 17A-B-C; Philosophy 7, 21A-B-C; Political Science 1, 2, 3; Psychology 1 or 101; Religious Studies 8, 40.

Upper-division major. Forty-eight upper-division units, distributed as follows. Core course requirements: Philosophy 100A; Political Science 115; Sociology 173. Component course requirements: six courses from the following, with at least one course from each of at least three groups. Group 1: Philosophy 191, 192, 193; Political Science 117. Group 2: Communication 170; Political Science 165, 166, 167, 168. Group 3: Sociology 172, 174, 175, 176A, 176D. Group 4: Law and Society 100, 140, 150, 160, 180, 190, 194. Elective requirements: three courses from Anthropology 114, 115; Chicano Studies 164, 172; Communication 132; Economics 117A-B, 160; Environmental Studies 124, 125, 126A-B; History 166LA, 166LB, 178M; Law and Society 192, 199; Philosophy 121, 122; Political Science 125, 175, 181; Psychology 103; Religious Studies 108, 141C, 177; Sociology 170, 171; or any course from the component courses above not used to fulfill that requirement.

Up to 8 units of Law and Society 192, which is offered only passed/not passed, may be taken for major credit; all other courses must be taken for letter grades.

Bachelor of Arts—Law and Society (Criminal Justice Emphasis)

Preparation for the major. Core course requirements: Philosophy 3; Political Science 12 or 100; Sociology 1 or 101; Law and Society 1 and 2; Economics 1 and 2 or 109; Psychology 1 or 101; Economics 5 or PSTAT 5AA-ZZ; or Psychology 5 or Sociology 3.

Upper-division major. Sixty upper-division units, distributed as follows. Core course requirements: same as basic major. Component course requirements: at least nine courses from the following, distributed as follows. Group 1: One course from Psychology 103; Sociology 170, 171. Group 2: Four courses from Chicano Studies 164; Economics 160; History 178M; Philosophy 193; Political Science 165; Sociology 172, 174, 175, 176D. Group 3: Four courses from Communication 170; Law and Society 140, 180, 190; Philosophy 191, 192; Political Science 117, 166, 167, 168; Religious Studies 177. Elective requirements: Three courses from Chicano Studies 172; Communication 132; History 166LA, 166LB; Law and Society 100, 150, 160, 192 (a maximum of 4 units), 199; Political Science 181; or any course from the component courses above not used to fulfill that requirement.

Up to 4 units of Law and Society 192 may be taken passed/not passed for major credit; all other courses must be taken for letter grades.

Honors Program

The law and society honors program is open to seniors with a minimum grade-point average of 3.3. Students who successfully complete a series of honors classes and maintain the minimum required grade-point average will graduate with Distinction in the Major.

Law and Society Courses

LOWER DIVISION

1. Introduction to Law and Society
(4) BINION
Recommended: Sociology 1 or 101, Political Science 12 or 100, Philosophy 3. The course is a prerequisite for study in the major.

An introduction to the interdisciplinary study of the law. Preparation for and introduction to the law and society major. Introduction to the issues, principles, and approaches involved in future studies in an interdisciplinary program.

2. Interpreting Socio-Legal Research
(4) LINZ
Prerequisite: Law and Society 1.

A survey of social science research methods commonly used in the study of law and society. The relationship between legal and social theory and research methodology will be explored. Experimental, survey, field, archival and observational methods will be analyzed.

UPPER DIVISION

100. American Law
(4) ANDERSON

Lawyers, judges, and courts. Civil and criminal procedure. Problem areas of the law.

140. Gender and the Law
(4) BINION
Prerequisites: upper-division standing, Political Science 115.

Introduction to historical and contemporary relationships between gender and law, including debates about the rights, responsibilities, benefits, etc., of men and women under law.

150. Alternative Dispute Resolution
(4) STAFF
Prerequisite: upper-division standing.

An introduction to the principles and methods of conflict resolution alternatives, including negotiation, mediation, conciliation, arbitration, and formal adjudication. Domestic, comparative, and international aspects.

160. Comparative Law
(4) ANDERSON
Prerequisite: upper-division standing.

An analysis of the structures, processes and principles of different kinds of legal systems. Focus of the course is on public and constitutional law and special attention is paid to the contrast between common law and civil law countries.

180. Law and Social Science
(4) LINZ
Prerequisites: Law and Society 1 and 2.

The American legal system uses social science research in three distinct ways: to make law, to determine facts, and to provide context. This course will review and critique these uses of social research in U.S. courts.

190. Honors Seminar in Law and Society
(4) STAFF
Prerequisites: Sociology 173, Political Science 115, Philosophy 100A; minimum grade-point average of 3.2; senior status, law and society major.

Honors seminar on selected topics in law and society. A research paper will be required.

192. Field Research in Law and Society
(1-8) BINION
Prerequisites: upper-division standing, good academic standing, consent of instructor. May be repeated for credit for a maximum of 8 units.

Field research for students who seek greater understanding of the legal system through participant observation as an intern in a law-related agency. Depending upon the project, students may be required to work up to 40 hours per week. A research paper will be required.

194. Group Studies in Law and Society
(1-4) STAFF
Prerequisites: Law and Society 1, Political Science 115, Sociology 173, Philosophy 192; advanced standing in the major; consent of instructor.

Group studies on special topics of importance to law and society. The course is designed for advanced law and society majors. It will consist of a limited number of students and an instructor working on topics of common interest and societal importance.

199. Independent Studies in Law and Society
(1-5) STAFF
Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in law and society. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Admission by special consent only. For majors; no more than 4 units may count toward completion of the major requirements.

Linguistics

Department of Linguistics,
Division of Humanities and Fine Arts,
South Hall 5607;
Telephone (805) 893-3776
Department Chair: Sandra A. Thompson

Faculty

Wallace L. Chafe, Ph.D., Yale University, Professor Emeritus *(American Indian linguistics, discourse, spoken and written language)*

Patricia M. Clancy, Ph.D., UC Berkeley, Associate Professor *(language acquisition, psycholinguistics, discourse, Japanese and Korean linguistics)*

John W. Du Bois, Ph.D., UC Berkeley, Associate Professor *(discourse, sociocultural linguistics, Mayan linguistics)*

Carol E. Genetti, Ph.D., University of Oregon, Assistant Professor *(Tibeto-Burman linguistics, phonology, language change, descriptive linguistics)*

H.S. Gopal, Ph.D., University of Texas at Dallas, Assistant Professor *(acoustic phonetics, prosody, research design)*

C. Douglas Johnson, Ph.D., UC Berkeley, Associate Professor *(phonology, Arabic linguistics)*

Charles N. Li, Ph.D., UC Berkeley, Professor *(historical syntax, Chinese linguistics, minority languages of China)*

Marianne Mithun, Ph.D., Yale University, Professor *(morphology, language change, discourse and grammar, language universals, American Indian linguistics, Austronesian linguistics)*

Arthur Schwartz, Ph.D., University of Wisconsin, Professor *(syntax, language and gender, language acquisition)*

Sandra A. Thompson, Ph.D., Ohio State University, Professor *(discourse and grammar, language universals, Chinese linguistics)*

The study of linguistics at UCSB focuses on the nature of specific languages and of language in general, the ways in which language is acquired, the ways in which languages change through time, and the relations between language, thought, culture, and social interaction. These concerns have relevance to many other fields. The B.A. in linguistics provides a useful background, not only for advanced work in linguistics itself, but also for graduate study in anthropology, law, sociology, language disorders, cognitive science, speech technology, artificial intelligence, psychology, philosophy, education, and foreign languages.

After completing specific prerequisites, students with a bachelor's degree in linguistics are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education. A certificate in English as a Second Language may be earned at another institution with approximately one year of additional study, opening the possibility of teaching in a variety of domestic and international English as a Second Language programs.

Each faculty member is available for advising students. A list of courses offered is available each quarter, prior to registration.

Undergraduate Program

Bachelor of Arts—Linguistics

Preparation for the major. Linguistics 20. Completion of six quarters (or equivalent) of study in a foreign language plus an additional three quarters (or equivalent) of study in a second foreign language. Students are encouraged to take at least one language outside the Indo-European family; however, study of two Indo-European languages will satisfy this requirement provided they are not both members of either the Germanic, Slavic, or Romance families. Native speakers of languages other than English may count either English or their native language as one of the languages required.

Upper-division major. Forty upper-division units in linguistics, including 106, 108, 109, 111, 113, and 115. The remaining four courses are electives to be chosen from the other linguistics course offerings.

Bachelor of Arts—Linguistics—Chinese emphasis

Preparation for the major. Linguistics 20, Chinese 1-6. In addition, the completion of the third quarter of a second foreign language is also required.

Upper-division major. Forty-eight upper-division units in linguistics and Chinese distributed as follows: Linguistics 106, 108, 109, 111, 115; for the Classical Chinese track: Chinese 101A-B-C and one course from the following: Chinese 115A, 130A-B-C, 132A, 133, 134. For the Modern Chinese track: Chinese 122A-B-C and one course chosen from: Chinese 105, 111, 120, 124A-B, 125, 132B. Three additional upper-division courses in linguistics, to bring the total to 48.

Bachelor of Arts—Linguistics—English emphasis

Preparation for the major. Linguistics 20. The completion of six quarters (or equivalent) in one foreign language plus the completion of three quarters (or equivalent) in another foreign language. Students are encouraged to take at least one language outside the Indo-European family; however, the study of two Indo-European languages will satisfy this requirement provided both are not members of either the Germanic, Slavic, or Romance families. Native speakers of languages other than English may count either English or their native language as fulfilling one of the language requirements.

Upper-division major. Forty-eight upper-division units in linguistics and English distributed as follows: Linguistics 106, 108, 109, 111, 113, 115, 160; English 111, one course from English 115, 119, 152A, 152B; one course from English 117A, 117B, 117C, 118, 157, 160. Two additional upper-division courses in linguistics, to bring the total to 48.

Bachelor of Arts—Linguistics—French emphasis

Preparation for the major. Linguistics 20, French 1-6, and either 26 or 30. In addition to the French language requirement, the completion of the third quarter of a second foreign language is required. Students are encouraged to elect a non-Indo-European language for this second language requirement; however, an Indo-European language will satisfy this requirement provided it is not a member of the Romance family.

Upper-division major. Forty-eight upper-division units in linguistics and French distributed as follows: Linguistics 106, 108, 109, 111, 113, 115, 175; French 102, 103, 105, one course from French 107, 136A, 136B, 136C, 140A, 140B, 140C. One additional upper-division course in linguistics, to bring the total to 48.

Bachelor of Arts—Linguistics—German emphasis

Preparation for the major. Linguistics 20, German 1-6. In addition to the German language requirement, the completion of the third quarter of a second foreign language is required. Students are encouraged to elect a non-Indo-European language for this second language requirement; however, an Indo-European language will satisfy this requirement provided it is not a member of the Germanic family.

Upper-division major. Forty-eight upper-division units in linguistics and German distributed as follows: Linguistics 106, 108, 109, 111, 115; German 101A, 103, 120; one course from German 101B, 101C, 104-158, 197, 198, 199. Three additional upper-division courses in linguistics, to bring the total to 48.

Bachelor of Arts—Linguistics—Japanese emphasis

Preparation for the major. Linguistics 20, Japanese 1-6. In addition, the completion of the third quarter of a second foreign language is also required.

Upper-division major. Forty-eight upper-division units in linguistics and Japanese distributed as follows: Linguistics 106, 108, 109, 111, 115; Japanese 101; three courses from: Japanese 120A-B-C, 125, 130A-B-C, 135, 198. Three additional upper-division courses in linguistics, to bring the total to 48.

Bachelor of Arts—Linguistics—Spanish emphasis

Preparation for the major. Linguistics 20, Spanish 1-6, 30. In addition to the Spanish language requirement, the completion of the third quarter of a second foreign language is required. Students are encouraged to select a non-Indo-European language for this second language requirement; however, an Indo-European language will satisfy this requirement provided it is not a member of the Romance family.

Upper-division major. Forty-eight units of upper-division courses in linguistics and Spanish distributed as follows: Linguistics 106, 108, 109, 111, 113, 115, 175, 180; Spanish 100, 114; Spanish 103 or 114A; and one course from Spanish 101, 107, 109, 121.

Honors Program in Linguistics

Majors with a minimum 3.5 grade-point average in linguistics courses are eligible to join the honors program during their senior year. The honors program consists of an independent research project carried out under the supervision of a faculty member, earning 6 units of Linguistics 195 over 2 or 3 quarters. The aim of the project is to write an original, publishable research paper. The project can be on a topic of the student's choice, or it can be an extension of Linguistics 121A-B-C (Field Methods). Students successfully completing the program will be eligible for graduation with Distinction in the Major. Application to the program should be made to the undergraduate adviser of the Department of Linguistics early in the first quarter of the senior year.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university degree requirements found in the chapter "Graduate Education at UCSB."

M.A./Ph.D. in Linguistics

The linguistics program focuses on the discovery of general, theoretically significant explanations of why languages are structured as they are, why they change as they do, and in what ways linguistic structures are shaped by the nature of the communication process. A major goal is the pursuit of what are often called "functional" explanations for linguistic patterns, explanations that are based on the functions of language as a contextualized social and cognitive activity. Students are encouraged to seek both breadth and depth in their understanding of a wide sample of languages and to appreciate the ways languages can differ as well as the features they share.

Admission

The M.A. program in linguistics is oriented toward the Ph.D. program and is viewed as an integral part of preparation for the doctorate; students normally apply to both programs. Students intending to pursue only an M.A. degree will not be accepted into the graduate program.

Students entering the graduate program in linguistics must have completed with a minimum grade-point average of 3.5 the equivalent of a linguistics B.A. or the equivalent of a linguistics minor with a major in a related area, such as anthropology, psychology, or a language. The minimum course requirements for admission are an introductory course in linguistics and at least one course each in phonetics/phonology, historical/comparative linguistics, and syntax.

Students who do not already have a master's degree should apply to the M.A./Ph.D. program; those with an M.A. degree should apply directly to the Ph.D. program.

Scores for the Graduate Record Examination are required of all applicants. Foreign students from non-English-speaking countries must submit TOEFL scores. Foreign students who have received a bachelor's or master's degrees from a college or university in the United States are exempt from the TOEFL requirement.

Admitted students for whom English is not the native language must take the English Language Placement Examination upon arrival at UCSB to determine speaking and writing ability. Depending on test performance, students may be required to take courses in English as a Second Language.

Master of Arts—Linguistics

The M.A. program is expected to take between one and two years. The student is required to complete nine courses with a grade-point average of B or better. Six of these courses are obligatory: Linguistics 208 (Morphology), Linguistics 214 (Discourse), Linguistics 225 (Semantics), Linguistics 234 (Syntax), Linguistics 235 (Phonology), Linguistics 236 (Language Change). The other three courses may be chosen from the full list of graduate courses in linguistics.

After completing the required courses, the student will submit a thesis based on original research to the thesis committee for approval. The committee, consisting of at least three faculty members appointed by the department chair and approved by the dean of the Graduate Division, is to be established at least one quarter prior to the quarter in which the thesis is submitted, and is responsible for its final approval. The length of the M.A. thesis will not in general exceed 60 double-spaced pages (including footnotes and bibliography).

The foreign language requirement. Students must demonstrate knowledge of one research language before receiving an M.A. and a second research language before advancement to candidacy for the Ph.D. A research language is a language with substantial literature on linguistics. Knowledge can be demonstrated by (1) a reading examination administered by the department, typically involving a 500-word passage on a topic in linguistics to be translated within one hour; or (2) a research paper based on extensive sources in the language. A student may petition to substitute a contact language for one of these two languages if the thesis research warrants this. Knowledge will be demonstrated by a conversation examination showing ability to use the spoken language for research purposes. Approval of such a petition will depend on the availability of a suitable person to administer and evaluate the examination; it is the student's responsibility to find this person. By definition, the contact language may not be the same as the language the student is investigating. No language examinations will be administered during the summer or between quarters.

Transfer credit. Up to 8 units from accredited non-UC universities or 12 units from other UC campuses may be transferred at the discretion of the linguistics faculty. Students must have earned grades of B or better in such courses, and courses must be roughly equivalent to UCSB courses to qualify for transfer credit.

Doctor of Philosophy—Linguistics

Permission to continue for the Ph.D. is contingent upon passing the screening review, which takes place at the time of the completion of the M.A. for students who entered the M.A./Ph.D. program, and at a time specified by the student's advisory committee for those who entered the Ph.D. program directly. The Ph.D.

program is divided into two parts: Phase I, for students, with or without an M.A. degree, who have not passed the screening review, and Phase II, for those who have passed the screening review.

The screening review for a student who has completed the M.A. program in linguistics at UCSB will be based on the quality of the M.A. thesis and the entire faculty's evaluation of the student's overall coursework and promise.

A student who enters the graduate program with an M.A. in linguistics from another department or institution must fulfill all the requirements expected of students completing the M.A. program at UC Santa Barbara. The faculty will determine equivalence of work done elsewhere to the UC Santa Barbara M.A. requirements. An M.A. thesis from another university may be submitted for consideration by the UC Santa Barbara faculty, as a UC Santa Barbara M.A. thesis equivalent. The screening review will be based on the entire faculty's evaluation of the quality of the thesis equivalent and the student's overall coursework and promise. If the submitted thesis is not acceptable as a UC Santa Barbara M.A. thesis equivalent, the student will be asked to write another paper to be submitted as an M.A. thesis equivalent.

Linguistic Institute. Students are urged to consider attending the Summer Linguistic Institute, held every other summer by the Linguistic Society of America and a co-sponsoring university. The six- to eight-week summer program offers a wide range of courses, workshops, and seminars on linguistics and languages, as well as lecture series and special conferences.

Field work. Students are urged to begin thinking early in their graduate career about arrangements for pursuing linguistic field work or other research. Selection of an appropriate language or area, research topic, and sources of possible dissertation research funding should be discussed with the student's adviser at an early stage.

Emphasis in Human Development. Students may focus on the biological, sociocultural, and ethnic influences on human development across the lifespan by adding a formal emphasis to their Ph.D. in human development, as part of UCSB's Interdisciplinary Program in Human Development. This emphasis allows the student to include coursework taught by faculty from psychology, Black studies, communication, counseling psychology, education, linguistics, and sociology.

The guidance committee. Within one quarter after passing the screening review, the student must declare an informal guidance committee composed of at least three members of the Department of Linguistics, one of whom is the committee chair; normally, these three persons will be the departmental members of the student's official doctoral committee. The guidance committee is responsible for advising and guiding the student from the time it is established until the doctoral committee is set up.

The doctoral committee. The doctoral committee must be established no later than the quarter preceding that in which the student intends to take the oral qualifying examination. The committee must consist of three Department of Linguistics faculty members and two members from outside the department. This committee is responsible for administering the oral qualifying examination (see below).

Requirements for the Ph.D. The following are required: (a) A minimum of two years (six quarters) of academic residence, as defined and required by the university. (b) 44 units of graduate coursework beyond the nine required courses for the M.A. These units must include Linguistics 221A-B-C (Field Methods), 226 (Language and Cognition), 227 (Language and Culture), 231 (History of Linguistics in the Modern Era), 270 (Professionalism), and two seminars. (c) Two substantial research papers of publishable quality in different areas or fields of linguistics, approved by the student's guidance committee. The student may submit the M.A. thesis or thesis equivalent for consideration as one of these papers. (d) Fulfillment of the foreign language requirement. A doctoral committee cannot be officially appointed until the foreign language requirement has been fulfilled. Details are included in the description of the foreign language requirement for the master of arts degree, above. (e) Passing an oral qualifying examination administered by a doctoral committee approved by the chair of the department and appointed by the dean of the Graduate Division. The oral qualifying examination will cover general linguistics. (f) Approval of a dissertation prospectus which presents the plan for the dissertation, including a review of the relevant literature, the hypotheses to be tested, the methodology to be followed, and the significance of the work within the field. (g) A colloquium presentation of the dissertation research. (h) An original dissertation.

The normal time for completion of the Ph.D. degree will be five and one-half years after completion of a B.A. in linguistics.

Linguistics Courses

English as a Second Language

For further information see the "English as a Second Language" entry in this catalog.

1. ESL: English Skills Review

(4) STAFF

Prerequisite: placement based on English Language Placement Examination scores, Subject A examination scores, or by consent of department. Workload credit only. Course may be taken a total of two times.

This is an elementary level course aimed at developing reception and production skills (listening and reading, speaking and writing). Instruction will also include an intensive review of English grammar and basic sentence construction. (F)

2. ESL: English Skills Practicum

(4) STAFF

Prerequisite: placement based on English Language Placement Examination scores, Subject A examination scores, or by consent of department. Workload credit only. Course may be taken a total of two times.

Instruction will focus on writing skills such as paragraph development and rhetorical patterns, and oral production skills such as group discussions, individual oral presentations and seminars. Course content will be drawn from a variety of academic disciplines. (F,W)

3. ESL: Undergraduate Writing

(4) STAFF

Prerequisites: placement based on English Language Placement Examination scores, Subject A examination scores, or by consent of department; undergraduate standing. Workload credit only. Course may be taken a total of two times.

Intended for undergraduate students just prior to their enrolling in first-year composition courses. Instruction will include a general review of English grammatical structure and rhetorical patterns for expository writing. (F,W)

3G. ESL: Graduate Writing

(4) STAFF

Prerequisites: placement based on English Language Placement Examination scores, or by consent of department; graduate standing. Workload credit only. Course may be taken a total of two times.

Designed for graduate students with a firm foundation in English grammar, sentence construction, and basic rhetorical principles and oral skills. Students will be expected to write polished papers in their major disciplines and give them as oral presentations in tutorials. (F,W,S)

4. ESL: Self-Paced

(1-3) STAFF

Prerequisite: consent of instructor. Linguistics 4 carries workload credit only. Course may be taken a total of three times for a maximum of 9 units total.

Designed to meet individual needs of ESL students either individually or in small groups. Open to foreign students at any level of proficiency. (W,S)

5. ESL: Intermediate Oral Practicum

(3) STAFF

Prerequisites: placement based on English Language Placement Examination scores and graduate status. Linguistics 5 carries workload credit only. May be repeated for credit to a maximum of 6 units.

Focuses on listening comprehension and oral production skills necessary for participation in an American university classroom: group discussions, conversational strategies, individual oral presentations and note taking during lectures.

6. ESL: Advanced Oral Practicum

(3) STAFF

Prerequisite: Linguistics 5, 8 or consent of instructor. Linguistics 6 carries workload credit only. May be repeated for credit to a maximum of 6 units.

Advanced course designed to refine students' skills in classroom discussion and oral presentations. Course content will be drawn from a variety of academic disciplines.

7. ESL: Teaching Assistant Workshop/ Practicum

(3) STAFF

Prerequisite: current teaching assistantship or consent of instructor. Linguistics 7 carries workload credit only. May be repeated for a credit to a maximum of 6 units.

This is an intercultural teacher-training course with an emphasis on pronunciation and the oral production skills necessary for successful communication in the American university classroom. Each student is videotaped twice. (F,W,S)

9. ESL: Pronunciation

(3) STAFF

Linguistics 9 carries workload credit only. May be repeated for credit to a maximum of 6 units.

This course is intended for students who have problems in English pronunciation or who wish to improve their pronunciation. Instruction will include a general review of vowels, consonants, stress and intonation patterns.

10. ESL: Graduate Science Writing

(3) STAFF

Prerequisites: Linguistics 3G or equivalent and graduate science major. Linguistics 10 carries workload credit only. May be repeated for credit to a maximum of 6 units.

This course introduces the principles of scientific writing. Includes review of approaches to abstracts, laboratory reports, and research papers.

Linguistics Courses

LOWER DIVISION

20. Language and Linguistics

(4) CLANCY, THOMPSON, LI, MITHUN

An introduction to the scientific study of language: the nature of language structure; the social and cultural function of language; the origin and the learning of language; language change and the reconstruction of languages at earlier stages.

60. Word Origins

(4) JOHNSON

An introduction to the origin and evolution of words: language families, sound correspondences, and cognates; word-formation and loanwords; changes in meaning and form; etymology; dialectal differences in lexicon; vocabulary as historical and comparative evidence.

UPPER DIVISION

101. Basic Elements of Linguistic Analysis

(4) LI, THOMPSON, MITHUN, SCHWARTZ

Prerequisite: Linguistics 20.

An introduction to the analytic methodology in the study of phonology, morphology, syntax, and semantics. A typologically-oriented course designed to demonstrate how linguists analyze languages.

106. Introduction to Phonetics

(4) STAFF

Prerequisite: Linguistics 20.

An introduction to the articulatory and acoustic properties of speech sounds. Survey of speech sounds found in the languages of the world. Emphasis on ear training and transcription using the IPA.

108. Introduction to Morphology

(4) STAFF

Prerequisite: Linguistics 111. Same course as Linguistics 208.

How meaning is encoded in words in the languages of the world. Morphological and morphophonemic processes, lexical categories, derivation and inflection, productivity, tense, aspect, mode, case, concord, valence changes (passives, antipassives, benefactives, causatives), morphological typologies.

109. Introduction to Syntax

(4) STAFF

Prerequisite: Linguistics 20. Same course as Linguistics 209.

Similarities and differences among languages in the grammatical devices they use to signal relations between nouns and verbs, negation, comparison, attribution (adjectives), and backgrounding. Data from a range of languages presented and analyzed.

111. Introduction to Phonology

(4) JOHNSON, GENETTI

Prerequisite: Linguistics 106. Same course as Linguistics 211.

Introduction to the description of the sound pattern of natural language.

112. Approaches to Formal Syntax

(4) STAFF

Prerequisites: Linguistics 109.

The emphasis of this course is the nature of explanation, with special reference to the natural language syntax. It examines several current formal approaches for their treatment of a number of well-known empirical problems.

113. Introduction to Semantics

(4) DU BOIS, LI, THOMPSON

Prerequisite: Linguistics 20.

Introduction to the study of meaning in language. Consideration of semantic fields, semantic components, semantic relations, categories, prototypes, frames, metaphor, pragmatics, indexicality, and speech acts.

115. Introduction to Historical-Comparative Linguistics

(4-4) JOHNSON, MITHUN, CHAFE, GENETTI, JOHNSON

Prerequisite: Linguistics 111. Same course as Linguistics 215.

An introduction to linguistic change, genetic classification of languages, and methods of reconstructing parent languages.

121A-B-C. Field Methods

(4-4-4) STAFF

Prerequisites: Linguistics 106, 108, and 111. This is a three-quarter in-progress sequence course with grades upon completion of 121C. Letter grade required for the major. No final examination is required in this course. The sequence may be repeated once for credit.

Workshop format with native speaker of a non-Indo-European language as consultant. Students will analyze the phonological, syntactic, and semantic structure of the language by eliciting data from the consultant and applying the theoretical linguistic knowledge to the data.

124. Discourse Analysis

(4) CHAFE, DU BOIS, THOMPSON

Prerequisite: Linguistics 20.

Basic concepts in the study of discourse, including differences between spoken and written language; conversational structure; structure of narrative and expository texts; information flow; and implications for the study of grammar.

130. Language and Culture

(4) DU BOIS, JOHNSON

Prerequisite: Linguistics 20.

An introduction to the study of language in its cultural setting: the effect of culture on the linguistic system, as well as the effect of the system on the culture; language in relation to cognitive categories, both universal and culture-specific; language in relation to social roles (e.g., male, female).

131. Language and Society

(4) DU BOIS

How language functions in face-to-face interaction in everyday life; displays social identity; defines social context; shapes relationships with others; reflects social differentiation of society. How context affects speech. Language in national politics, education, bilingualism, minorities. Differences across cultures.

132. Sex Roles and Language

(4) SCHWARTZ

Topics include the relation between cultural attitude and language, how gender socialization is reflected in the structure and use of language, and the effectiveness of political and social forces in "legislated" linguistic change. Different languages and cultures will be discussed.

133. Studies in Sexism and Language

(4) SCHWARTZ

Prerequisite: Linguistics 132.

Follow-up to Linguistics 132, this will be a workshop with outside readings—research required. Inquiry will focus on whether sexism is an inherent consequence of sex roles. Projects investigate aspects of contemporary American culture, and other cultures, with cross-cultural implications.

134. North American Indian Languages

(4) CHAFE, MITHUN

Prerequisite: Linguisitics 20.

Survey of the several hundred native languages of North America, including the history of research on these languages, their classification, their social and cultural relevance, and their oral traditions.

135. California Indian Languages

(4) MITHUN

Prerequisite: Linguistics 20.

Survey of native languages for California: linguistic relationships within California and connections to non-California languages; language and culture areas; linguistic aspects of culture; grammatical characteristics of several languages.

137. Introduction to First Language Acquisition

(4) CLANCY

Prerequisite: Linguistics 20 or consent of instructor. Same course as Linguistics 237.

Introduction to current theories and methods in the study of language development. Topics include cross-linguistic developmental differences, the relationship between linguistic and socio-cognitive development, and cultural differences in language socialization.

140. Introduction to Sign Languages of the World

(4) DU BOIS

General introduction to sign languages of the world. Focus is on social situations surrounding the natural development and use of sign languages in various types of communities. Also included is a basic introduction to the linguistic characteristics of sign languages.

160. The Structure of English

(4) STAFF

Prerequisite: Linguistics 20.

Introduction to the phonological, morphological, syntactic, and discourse features of contemporary English.

175. Introduction to Romance Linguistics

(4) JOHNSON, SCHWARTZ

The course aims to illustrate principles of comparative-historical linguistic analysis by examining Romance languages (French, Portuguese, etc.) for similarities and differences, and tracing their evolution from Vulgar Latin.

180. Language in American Ethnic Minority Groups

(4) CLANCY

This course will examine the language of four American ethnic minority groups — Asian, Hispanic, Native and Afro-Americans, focusing on the special linguistic features and ways of using English in each group and on issues in inter-ethnic communication.

185. Animal Communication

(4) LI

This course will survey a selected number of animal communication systems ranging from those of simple organisms to mammals, especially primates. Each system will be analyzed in terms of such features as its capacity for symbolization and problem solving, and will be examined vis-a-vis human language.

194. Group Studies in Linguistics

(2-4) STAFF

Prerequisite: Linguistics 20.

A course limited to small groups whose interest and needs will determine the central focus.

195A-B-C. Honor Thesis

(2-3, 2-3, 2-3) STAFF

Prerequisites: students must be (1) in senior standing; (2) have at least a 3.5 grade-point average for all linguisitics courses; (3) have the consent of a faculty member who will serve as the honors advisor. (Six credits of 195 A-B-C are reequired and may be taken over two or three terms. Grading is on an in-sequence basis, with a final grade submitted on completion of the paper).

Guided research and writing of an original research paper to meet the requirements of the honors program in Linguisitcs.

199. Independent Studies in Linguistics

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in linguistics, and (4) have consent of instructor. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Admission by special arrangement.

Intended for the study of special areas within linguistics.

199RA. Independent Research Assistance in Linguistics

(1-5) STAFF

Prerequisites: upper-division standing; minimum 3.0 grade-point average for the preceding three quarters; completion of at least two upper-division courses in linguistics; consent of instructor and department. Students are limited to five units per quarter and 30 units total in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

208. Introduction to Morphology

(4) CHAFE, MITHUN

Prerequisite: Linguistics 111. Same course as Linguistics 108.

How meaning is encoded in words in languages of the world. Morphological and morphophonemic processes, lexical categories, derivation and inflection, productivity, tense, aspect, mode, case, concord, valence changes, (passives, antipassives, benefactives, causatives), morphological typologies.

209. Introduction to Syntax

(4) STAFF

Prerequisites: Linguistics 20. Same course as Linguistics 109.

Similarities and differences among languages in the grammatical devices they use to signal relations between nouns and verbs, negation, comparison, attribution (adjectives), and backgrounding. Data from a range of languages presented and analyzed.

211. Introduction to Phonology

(4) JOHNSON, GENETTI

Prerequisite: Linguistics 106. Same course as Linguistics 111.

Introduction to the description of the sound patterns of natural language.

212. Transcription and Analysis of Spoken Discourse

(4) CHAFE, DU BOIS

Prerequisite: Linguistics 111 or equivalent or consent of instructor.

How to transcribe spoken conversational discourse for purposes of linguistic research. Identification of intonation units, contours, stress pauses, other prosody, speaker overlap. Computational tools for managing and analyzing discourse data. Emphasis on developing practical skills.

213. Experimental Phonetics

(4) STAFF

The experimental approach to the articulation, acoustics, and perception of speech. The relation of phonetics to phonological alternations and sound change. The use of phonetic data to resolve phonological questions. Interpretation and evaluation of experiments. The acoustic theory of maximal perceptual distance.

214. Discourse

(4) DU BOIS, CHAFE, MITHUN, THOMPSON

Prerequisite: Linguistics 209 or equivalent or consent of instructor.

Language beyond the sentence. Local and global properties of connected speech and writing. Narrative structures, new and old information, foregrounding and backgrounding, intonation, conversation.

215. Introduction to Historical-Comparative Linguistics

(4) CHAFE, MITHUN, THOMPSON, GENETTI, JOHNSON

Prerequisite: Linguistics 111. Same course as Linguistics 115.

An introduction to linguistic change, genetic classification of languages, and methods of reconstructing parent languages.

216. Grammar Writing

(4) CHAFE, THOMPSON

Prerequisites: Linguistics 208, 209, 211, or consent of instructor.

Training in writing a description of a language, including critical review of selected existing grammars, discussion of contents, and practice in writing.

221A-B-C. Field Methods

(6-6-6) STAFF

Prerequisites: Linguistics 208, 209, 211. A three-quarter in-progress sequence course with grades issued upon completion of 221C.

Techniques of eliciting and analyzing phonological, grammatical, and discourse data. Students will work with a speaker of a little known language for three consecutive quarters. A series of short papers will be required.

222. Typology and Universals

(4) STAFF

Prerequisite: Linguistics 208, 209

Reading and discussion of major contributions to the literature in typology and universals, focusing on such problems as systems of case marking, pronominal agreement, relative clauses, voice, reflexives, and tense-aspect-mood.

223. Languages in Contact

(4) LI, GENETTI

Prerequisites: Linguistics 208, 209, 211, 215.

Types, causes, mechanisms, and consequences of contact-induced language change, including a consideration of pidgins and creoles.

224. Spoken and Written Discourse

(4) STAFF

Prerequisites: Linguistics 212 and 214.

Comparisons of different genres and styles of writing and speaking, focusing on ways in which language use determines its form.

225. Semantics

(4) DU BOIS, THOMPSON

Prerequisite: Linguistics 109.

Introduction to the study of meaning. How meanings are integrated into linguistic sign systems, contexts of use. Pragmatic theories of indexicality, deixis, implicature, presupposition, speech acts, discourse comprehension. Semantic differences across languages.

226. Language and Cognition

(4) CLANCY

Prerequisites: Linguistics 208, 209, and 214 (or consent of instructor).

A psycholinguistic overview of the relationship between language and cognition, including cognitive constraints on the nature of lexical and grammatical categories, morphological structure, sentence-level syntax, and discourse organization.

227. Language and Culture

(4) STAFF

Role of language in culture: language as embodiment of culture. Linguistic classification of experience. Relation of habitual thought and behavior to language. Cross-linguistic diversity and universals. Language as instrument and object of socialization. Theories of Sapir, Whorf, Ochs, others.

228. Ways of Speaking

(4) DU BOIS

Ethnography of communication. Diverse ways of speaking across cultures and genres: ritual language, magical incantation, divination, oratory, proverbs, others. Role of form in establishing sociocultural power of discourse. Discourse as culture. Theories of prior text, Bakhtinian voice.

229. Formal Syntax

(4) STAFF

Prerequisite: Linguistics 112 or equivalent.

A consideration of syntactic problems from the perspective of current formal syntactic theories, such as government and binding, relational grammar, and lexical-functional grammar.

230. History of Linguistics Through the Nineteenth Century

(4) MITHUN

Prerequisites: Linguistics 208, 209, 211, 215.

The foundations of modern conceptions of language: Panini, Plato, Humboldt, the neogrammarians, Whitney, Meillet, and others. Emphasis on early insights which have continuing relevance to the study of language.

231. History of Linguistics in the Modern Era

(4) CHAFE, MITHUN, THOMPSON

Prerequisites: Linguistics 208, 209, 211.

Theories of language in the twentieth century: Saussure, Boas, Sapir, Jakobson, Trubetzkoy, Bloomfield, Chomsky, and others. Emphasis on inquiry into the foundations of modern linguistics.

232. Foundations of Sociocultural Linguistics

(4) STAFF

Investigates sociocultural theories of language. Language as culture; culture as language. Social and interactional matrix of speech and language. Close reading of great books by Humboldt, Whitney, Boas, Sapir, Malinowski, Volosinov-Bakhtin, Vygotsky, and Weinreich.

233. Advanced Morphology

(4) MITHUN, GENETTI

Prerequisite: Linguistics 208 or equivalent.

Theoretical approaches to morphology, including discussion of inflection versus derivation, nature of the lexicon, morphological change and the relation of morphology to phonology, syntax, discourse, and semantics. Methods of morphological description and analysis. Survey of morphological structures in diverse languages.

234. Advanced Syntax

(4) THOMPSON, LI, GENETTI

Prerequisite: Linguistics 209 or equivalent.

Functional approaches to syntax. Methods of syntactic description and explanation. Survey of syntactic structures in diverse languages.

235. Advanced Phonology

(4) JOHNSON, GENETTI

Prerequisite: Linguistics 211 or equivalent.

Review of articulatory and acoustic phonetics and methods of phonological description and analysis. Current issues in phonological theory. Survey of phonological patterns and systems in diverse languages.

236. Advanced Language Change

(4) CHAFE, MITHUN, GENETTI

Prerequisite: Linguistics 215 or equivalent.

Types of theories of language change. Language families and subgroups. Internal and comparative reconstruction. The interpretation of historical records. Dialectology; sociolinguistic factors in language change. Ramifications of observed changes for synchronic theories of language structure.

237. Introduction to First Language Acquisition

(4) CLANCY

Prerequisite: Linguistics 20 or consent of instructor. Same course as Linguistics 137.

Introduction to current theories and methods in the study of language development. Topics include cross-linguistic developmental differences, the relationship between linguistic and socio-cognitive development, and cultural differences in language socialization.

240. Anthropological Linguistics

(4) CHAFE, DU BOIS

Prerequisites: Linguistics 208, 209, and 211, or consent of instructor.

The course will (i) survey the modern history of theoretical linguistics: structuralism, generative, and postgenerative theories of language; (ii) present the fundamental concepts in methodologies of synchronic and diachronic linguisitics; (iii) introduce fieldwork methodologies.

241A-B-C. Language of the Year

(2-4) STAFF

Prerequisite: Linguistics 221A, field work experience, or consent of instructor. May be taken more than once for credit. The 4 unit option is for students who write a paper, the 2 unit option may not be applied to the MA or PhD requirements.

Research on a designated language, which varies from year to year.

242A-B. Topics in Linguistic Structures

(4-2) STAFF

Prerequisites: Linguistics 208, 209, 211, 215. A two-quarter in-progress course with grades for both quarters issued upon completion of 242B. May be repeated for credit.

Specialized topics in the study of a given language.

243A-B. Topics in Linguistic Families

(4-2) STAFF

Prerequisites: Linguistics 208, 209, 211, 215. A two-quarter in-progress course with grades for both quarters issued upon completion of 243B. May be re-

peated for credit.

Specialized topics in the study of a given language family.

244A-B. Topics in Linguistic Areas

(4-2) STAFF

Prerequisites: Linguistics 208, 209, 211, 215. A two-quarter in-progress course with grades for both quarters issued upon completion of 244B. May be repeated for credit.

Specialized topics in the study of a given linguistic area.

251A-B. Seminar in Phonetics and Phonology

(4-2) JOHNSON, GENETTI

Prerequisites: Linguistics 211 or consent of instructor. A two-quarter in-progress course with grades for both quarters issued upon completion of 251B.

Specialized topics in phonetics and phonology.

252A-B. Seminar in Morphology and Syntax

(4-2) LI, MITHUN, THOMPSON, GENETTI

Prerequisites: Linguistics 209, 211 or consent of instructor. A two-quarter in-progress course with grades for both quarters issued upon completion of 252B. May be repeated for credit.

Specialized topics in morphology and syntax.

253A-B. Seminar in Semantics and Pragmatics

(4-2) STAFF

Prerequisites: Linguistics 209 and 225 or consent of instructor. This is a two-quarter in-progress course. Credit will be given upon completion of 253B. May be repeated for credit.

Specialized topics in semantics and pragmatics.

254A-B. Seminar in Discourse

(4-2) STAFF

Prerequisites: Linguistics 209, 212, and 214 or consent of instructor. This is a two-quarter in-progress course. Credit will be given upon completion of 254B. May be repeated for credit.

Specialized topics in discourse.

255A-B. Seminar in Language Change

(4-2) STAFF

Prerequisites: Linguistics 208,209, 210, and 215 or consent of instructor. This is a two-quarter in-progress course. Credit will be given upon completion of 255B. May be repeated for credit.

Specialized topics in language change.

256A-B. Seminar in Typology and Universals

(4-2) LI, MITHUN, THOMPSON, GENETTI

Prerequisites: Linguistics 208, 209, 211, and 222, or consent of instructor. A two-quarter in-progress course with grades for both quarters issued upon completion of 256B. May be repeated for credit.

Specialized topics in typology and universals.

257A-B. Seminar in Psycholinguistics

(4-2) CLANCY

Prerequisites: Linguistics 208, 209, and 211; or consent of instructor. A two-quarter in-progress course with grades for both quarters issued upon completion of 257B. May be repeated for credit.

Specialized topics in psycholinguistics.

258A-B. Seminar in Sociocultural Linguistics

(4-2) STAFF

Prerequisite: Linguistics 225 or 227 or consent of instructor. This is a two-quarter in-progress course. Credit will be given upon completion of 258B. May be repeated for credit.

Specialized topics in sociocultural linguistics.

259A-B. Seminar in History of Linguistics

(4-2) STAFF

Prerequisite: Linguistics 230 or 231 or consent of instructor. This is a two-quarter in-progress course. Credit will be given upon completion of 259B. May be repeated for credit.

Specialized topics in the history of linguistics.

260. Structure of English

(4) STAFF

Prerequisite: Linguistics 209.

The study of syntactic and semantic patterns in English. Analysis of such patterns will be presented in the framework of language universals.

265. Acquisition of Grammar

(4) CLANCY

Prerequisite: Linguistics 237.

Theories, methods, and cross-linguistic data in language acquisition; focus on grammar. Evaluation of current theoretical controversies concerning the mechanisms and bases—biological, cognitive, and social—of language acquisition.

266. Acquisition of Discourse

(4) CLANCY

The development of discourse from preverbal "conversations" to the narratives of school children. Cognitive, social and linguistic skills underlying production and comprehension of conversational and narrative discourse.

267. Topics in Phonetics

(4) STAFF

Prerequisite: Linguistics 211 or consent of instructor. May be repeated for credit.

Speech synthesis. Methods in speech recognition. Articulatory-acoustic relations for segmentals.

270. Professionalism

(2) STAFF

Prerequisite: graduate standing in linguistics.

Skills important to the professional linguist: preparing abstracts for and delivering oral presentations at conferences; preparing grant proposals; publishing research.

271A-B-C. Research Orientation

(2-2-2) STAFF

May not be applied toward the M.A. or Ph.D. degree requirements.

Sequence of lectures by faculty of the linguistics department and closely related departments, to acquaint new graduate students with current faculty research, and with research directions and resources of the campus.

272. Linguistics Colloquium

(2-4) STAFF

May not be applied toward the M.A. or Ph.D. degree requirements. May be repeated for credit.

Presentations on current topics in linguistics by visiting scholars, faculty, and graduate students.

275. Seminar in Native American Languages

(2-4) CHAFE, MITHUN

Prerequisite: consent of instructor. May be taken more than once for credit.

Topics in native American Indian languages.

297. Graduate Studies

(1-4) STAFF

Prerequisite: consent of instructor.

Graduate credit given for an upper-division course with additional work at the graduate level.

500. Teaching Assistant Practicum

(1-4) STAFF

Prerequisites: appointment as teaching assistant and departmental approval. No unit credit allowed toward advanced degree.

Supervised teaching of undergraduate linguistics courses.

505. Teaching Assistant Seminar

(1) STAFF

No credit allowed toward advanced degree.

Covers development of teaching techniques.

591. Research in Linguistics

(1-12) STAFF

No unit credit allowed toward advanced degree.

Research must be under the direction of a faculty member(s).

594. Topics in Linguistics

(4) STAFF

Prerequisite: consent of instructor. May be repeated for credit.

Specialized studies in an area of linguistics.

596. Directed Reading and Research

(2-4) STAFF

Prerequisite: consent of instructor. May be repeated for credit.

Individual tutorial in any area of linguistics.

597. Individual Study for Master's and Ph.D. Examinations

(1-12) STAFF

Prerequisites: consent of instructor and graduate advisor. No unit credit allowed toward advanced degree.

Instructor should be student's major professor or chair of the committee.

598. Master's Thesis Research and Preparation

(1-12) STAFF

Prerequisites: consent of instructor and graduate advisor. No unit credit allowed toward degree.

Master's thesis research and preparation. Instructor normally should be chair of the student's thesis committee. Only for research underlying the thesis, writing the thesis.

599. Ph.D. Dissertation Research and Preparation

(1-12) STAFF

Prerequisite: instructor approval required prior to registration.

Related Courses in Other Departments

Anthropology: see 113, 230
Art History: see 154E
Chicano Studies: see 120, 131
Classics: see 202
Communications: see 107-111, 125-127, 151, 156-158, 210, 211, 223, 225, 226, 228
Computer Science: see 136, 221, 262
Eastern Languages: see 130
Education: see 202A-B, 207, 210D, 234, 270, E391E-F-G
English: see 111, 205 A-B-C, 206-208
French & Italian: see 102, 103,105, 107, 203, 204A-B
German: see 103,104, 120, 216 A-B-C, 218-220, 262A-B
Philosophy: see 100C, 150C, 170, 183-186, 250C, 270G, 273G, 283G, 284G, 285G, 286G, 296C, 299A
Psychology: see 118B, 127
Semitic: see 120A-B-C
Sociology: see 136, 136Q, 139, 210, 242
Spanish: see 100, 101, 107, 109, 112, 114A-B-C, 121, 200, 202, 207, 209, 221A-B, 296 A-B
Speech and Hearing: see 121,122, 153, 237, 241, 243, 244, 251, 258, 262

Mathematics

Department of Mathematics,
Division of Mathematical, Life, and
Physical Sciences,
South Hall 6607;
Telephone (805) 893-2171
Department Chair: Adil Yaqub

Faculty

Charles A. Akemann, Ph.D., UC Berkeley, Professor *(functional analysis)*

Seymour Bachmuth, Ph.D., New York University, Professor *(group theory)*

Bjorn Birnir, Ph.D., The Courant Institute, Associate Professor *(nonlinear partial differential equations)*

Thomas K. Boehme, Ph.D., California Institute of Technology, Professor Emeritus

Ronald Book, Ph.D., Harvard University, Professor *(theoretical computer science)*

Andrew M. Bruckner, Ph.D., UC Los Angeles, Professor *(real analysis)*

Michael J. Cambern, Ph.D., UC Berkeley, Professor Emeritus

Jack G. Ceder, Ph.D., University of Washington, Professor Emeritus

Daryl Cooper, Ph.D., University of Warwick, Associate Professor *(topology, group theory)*

Michael G. Crandall, Ph.D., UC Berkeley, Professor *(partial and ordinary differential equations, functional and nonlinear functional analysis, semigroups applied to PDE)*

John E. Doner, Ph.D., UC Berkeley, Associate Professor *(logic, computer science)*

John A. Ernest, Ph.D., University of Illinois, Professor *(functional analysis, von Neumann algebras)*

Ky Fan, D.Sc., University of Paris, Professor Emeritus

Larry Gerstein, Ph.D., University of Notre Dame, Professor *(quadratic forms, number theory)*

Kenneth R. Goodearl, Ph.D., University of Washington, Professor *(algebra, functional analysis)*

William Jacob, Ph.D., Princeton University, Professor *(quadratic forms, division algebras)*

Eugene C. Johnsen, Ph.D., Ohio State University, Professor *(combinatorial mathematics, matrix theory, social network theory, mathematical sociology)*

Paul Kelly, Ph.D., University of Wisconsin, Professor Emeritus

Roy Leipnik, Ph.D., UC Berkeley, Professor *(applied mathematics)*

Darren Long, Ph.D., Cambridge University, Professor *(low-dimensional topology)*

Kenneth C. Millett, Ph.D., University of Wisconsin, Professor *(algebraic and geometric topology)*

Henryk Minc, Ph.D., University of Edinburgh, Professor Emeritus

John Douglas Moore, Ph.D., UC Berkeley, Professor *(differential geometry)*

Morris Newman, Ph.D., University of Pennsylvania, Professor *(linear algebra, number theory)*

Gustavo Ponce, Ph.D., Courant Institute, Professor *(nonlinear partial differential equations)*

James B. Robertson, Ph.D., Indiana University, Professor *(probability, ergodic theory)*

Alex Rosenberg, Ph.D., University of Chicago, Professor *(quadratic forms, Witt rings, formally real fields)*

Melvin Rosenfeld, Ph.D., UC Los Angeles, Associate Professor *(functional analysis)*

Martin Scharlemann, Ph.D., UC Berkeley, Professor *(topology)*

Thomas Sideris, Ph.D., Indiana University, Professor *(partial differential equations, nonlinear wave equations)*

Stephen Simons, Ph.D., Cambridge University, Professor *(functional analysis)*

James M. Sloss, Ph.D., UC Berkeley, Professor *(partial differential equations)*

David A. Sprecher, Ph.D., University of Maryland, Professor Emeritus

Jeffrey Stopple, Ph.D., UC San Diego, Associate Professor *(number theory)*

Robert C. Thompson, Ph.D., California Institute of Technology, Professor *(linear algebra, number theory)*

Guofang Wei, Ph.D., State University of New York, Stony Brook, Assistant Professor *(differential geometry)*

Max L. Weiss, Ph.D., University of Washington, Professor Emeritus

Julian Weissglass, Ph.D., University of Wisconsin, Professor *(mathematics education)*

Raymond Y. Wong, Ph.D., Louisiana State University, Professor *(topology)*

Adil Yaqub, Ph.D., UC Berkeley, Professor *(ring theory, universal algebras)*

Rugang Ye, Ph.D., Bonn University, Assistant Professor *(differential geometry)*

Julius Zelmanowitz, Ph.D., University of Wisconsin, Professor *(rings, modules)*

Birge Zimmermann-Huisgen, Ph.D., University of Munich, Professor *(rings, modules, Abelian group theory)*

The Department of Mathematics offers five undergraduate programs leading to the B.S. and B.A. degrees in mathematics and mathematical sciences, and, in conjunction with the Department of Economics, the B.A. in economics/mathematics. The department offers graduate programs leading to the M.A. and Ph.D. degrees. In addition, it offers a wide variety of service courses needed as a foundation for study in the sciences, in engineering, and in other fields.

Undergraduate advisers are available in the department office to answer questions about the department and other academic matters. Detailed information about the majors and about career options in mathematics is available in several publications, including Professional Opportunities in the Mathematical Sciences. The Weekly Calendar is designed to keep students and faculty informed about current seminars, colloquia, and special events.

Various prizes and awards are offered each year to outstanding majors in mathematics. These include the Raymond L. Wilder award and student memberships in the Mathematical Association of America. Each award is given on the basis of academic excellence in the mathematics program.

After completing specific prerequisites, students with a bachelor's degree in mathematics are eligible to pursue a California teaching credential. Interested students should discuss their plans immediately with the credential adviser in the Graduate School of Education.

Diagnostic and placement examinations. In order to enroll in a precalculus or first-quarter calculus course at UCSB, students must take the Algebra Diagnostic Test which is offered during pre-instructional week each quarter and is valid for the quarter in which it is taken. Students with prior work in calculus, but no unit credit at UCSB, may verify proper placement into the UCSB calculus sequence by taking the Calculus Placement Examination. Times and places for both these examinations are announced each quarter in the *Schedule of Classes.*

Results on the Algebra Diagnostic Test are substantially improved by reviewing algebra and trigonometry prior to taking the exam. A copy of Precalculus Review Topics may be obtained from the UCSB Bookstore, University of California, Santa Barbara, CA 93106 for $8.00.

The department strictly enforces the requirement of a C grade or better in any course prerequisite to Mathematics 3B-C and 5A-B-C.

Mathematics Achievement Program. The Mathematics Achievement Program (MAP) is open to all undergraduate students who are considering careers in the mathematical sciences or mathematics-based fields, with priority given to EOP or minority students. Students within the program have the opportunity to study in small groups and to discuss and explore course concepts in greater depth than is possible within the traditional class setting. Attention is given to the individual needs of the students. Workshops provide an in-depth problem-solving experience through worksheets, discussion of homework assignments, review sessions, and practice examinations. Students who are interested in applying to MAP should contact the Department of Mathematics, South Hall 6607. Telephone: 893-2171.

Undergraduate Program

Mathematics is basic to the sciences but its methods are somewhat different. It involves developing techniques for making logical deductions from given hypotheses. These hypotheses are of such a general form that they are applicable to many areas of investigation.

As preparation for entering any of the undergraduate programs, students should have completed two years of algebra and courses in plane geometry and trigonometry in high school. Students lacking this background should take Mathematics 15. In the first two years at UCSB, all students who major in mathematics should complete the pre-major requirements listed below: Mathematics 3A-B-C or 3AM-BM-CM or 3A-7B-7C, 10A-B-C or 5A-B-C, 8; Physics 1 or 6A; Computer Science 10 or one course from 5AA-ZZ. (A working knowledge of FORTRAN is prerequisite to Math 104A.) All prospective majors and pre-majors must meet with a faculty adviser, prior to admission to full major status, to discuss career opportunities and degree options and to design an upper-division course program. Admission to full major status will be granted only after this meeting has been documented. Samples of recommended programs for each degree option are available in the department office.

Bachelor of Science—Mathematics

This degree is especially suitable for students who want a rigorous program with an emphasis on theory, as well as for those who plan to go on to graduate work in mathematics.

Pre-major requirements. Students must complete all pre-major courses with a 2.5 or higher grade-point average. Physics 1 or 6A and Computer Science 10 or 5 (any section) are excluded as part of the pre-major grade-point average computation. Entry into the pre-major does not guarantee admission to full major status. Upon satisfactory completion of the following pre-major requirements, students may petition to be accepted into full major status: Mathematics 3A, 7B, 7C or 3A-B-C or 3AM-BM-CM; 10A-B-C or 5A-B-C; 8; Physics 1 or 6A; Computer Science 10 or one course from 5AA-ZZ. A working knowledge of FORTRAN is prerequisite to Math 104A.

Upper-division major. Fifty-two upper-division units in mathematics and probability and statistics are required, excluding Mathematics 100A-B, 193, and PSTAT 133A-B-C. These 52 units must include Mathematics 108A, 122A, 111A-B, 118A-B, 111C or 118C, and one course chosen from either Mathematics 145, 146, or 147. With an adviser's approval, 4 of the 52 units may be non-mathematics courses taken as part of a coherent mathematics program.

Bachelor of Science—Mathematical Sciences

This is an applied mathematics degree which is divided into two concentrations: physical sciences and operations research. Completion of one of the concentrations will not be formally acknowledged on the student's official transcript or diploma.

Pre-major requirements (all concentrations). Students must complete all pre-major courses with a 2.5 or higher grade-point average. Computer Science 10 or 5 (any section) and Physics 1 or 6A are excluded as part of the pre-major grade-point average computation. Entry into the pre-major does not guarantee admission to full major status. Upon satisfactory completion of the following pre-major requirements, students may petition to be accepted into full major status: Mathematics 3A-B-C or 3AM-BM-CM or 3A-7B-7C, 10A-B-C or 5A-B-C, 8; Physics 1 or 6A; Computer Science 10 or one course from 5AA-ZZ. (A working knowledge of FORTRAN is prerequisite to Math 104A.)

Upper-division major. Required for all concentrations: 52 upper-division units in mathematics and probability and statistics, excluding Mathematics 100A-B, 193, and PSTAT 133A-B-C. The 52 units must include the following specific requirements for one of the concentrations, which will not be formally acknowledged on the student's official transcripts or diploma:

A. Physical science concentration require-ments: Mathematics 104A-B-C, 124A-B, and 122A-B. Up to 4 of the 52 required units may be in courses from related departments, approved by the major adviser as part of a coherent program.

B. Operations research concentration requirements: Mathematics 104A-B, 132A-B, either 136A-B-C or 136A-137A-B, and PSTAT 120A-B-C or PSTAT 120A-160A-B. Up to four of the 52 required units may be in courses from related departments, as in A above.

Bachelor of Arts—Mathematics

This degree aims to provide the student with a broad, liberal education in pure mathematics and is flexible enough to allow a wide variety of upper-division programs which may be created by the student in consultation with a faculty adviser. The B.A. in mathematics contains a special concentration designed specifically as preparation for high school teaching. However, completion of a concentration will not be formally acknowledged on the student's official transcripts or diploma.

Pre-major requirements. Students must complete all pre-major courses with a 2.5 or higher grade-point average. Computer Science 10 or 5 (any section) and Physics 1 or 6A are excluded as part of the pre-major grade-point average computation. Entry into the pre-major does not guarantee admission to full major status. Upon satisfactory completion of the following pre-major requirements, students may petition to be accepted into full major status: Mathematics 3A-B-C or 3AM-BM-CM or 3A-7B-7C, 10A-B-C or 5A-B-C, 8; Physics 1 or 6A; Computer Science 10 or one course from 5AA-ZZ. (A working knowledge of FORTRAN is prerequisite to Math 104A.)

Upper-division major. Forty upper-division units in mathematics and probability are required, excluding Mathematics 100A-B, 193, and PSTAT 133A-B-C. The 40 units must include the specific requirements for one of the following concentrations, which will not be formally acknowledged on the student's official transcripts or diploma:

A. Liberal arts concentration requirements: At least three two-quarter sequences, including one algebra sequence (108A-B, 111A-B, or 136A-B) and one analysis sequence (118A-B, 122A-B, or 160A-B). With an adviser's approval, 4 units of the 40 units may be non-mathematics courses taken as part of a coherent mathematics program.

B. High school teaching concentration requirements: Mathematics 101A-B; 102A-B or 102A and 113; 132A; two courses selected from 103, 108A, 108B, and 115A; and either Mathematics 116 or PSTAT 107. With an adviser's approval, 4 units of the 40 units may be non-mathematics courses taken as part of a coherent mathematics program.

Bachelor of Arts—Mathematical Sciences

This is an applied mathematics degree intended for students interested in computational aspects of mathematics, systems analysis, and the decision sciences. It is suitable as a terminal baccalaureate degree or as preparation for advanced training in applied mathematics, management science, business administration, or operations research.

Pre-major requirements. Students must complete all pre-major courses with a 2.5 or higher grade-point average. Physics 1 or 6A and Computer Science 10 or 5 (any section) are excluded as part of the pre-major grade-point average computation. Entry into the pre-major does not guarantee admission to full major status. Upon satisfactory completion of the following pre-major requirements, students may petition to be accepted into full major status: Mathematics 3A-B-C or 3AM-BM-CM or 3A-7B-7C, 10A-B-C or 5A-B-C, 8; Physics 1 or 6A; Computer Science 10 or one course from 5AA-ZZ. A working knowledge of FORTRAN is prerequisite to Mathematics 104A.

Upper-division major. Forty upper-division units in mathematics and statistics are required, excluding Math 100A-B, 193, and PSTAT 133A-B-C. The 40 units must include the following courses: Mathematics 104A-B-C; PSTAT 120A-B or 121A-B; and either Mathematics 132A-B, 144A-B, 175-176A, or 176A-B. With an adviser's approval, 4 units of the 40 units may be non-mathematics courses taken as part of a coherent mathematics program.

Bachelor of Arts—Economics/Mathematics

This program is offered jointly with the Department of Economics. It provides a theoretical foundation for advanced study in business administration, law, or management science.

Pre-major requirements. Students must complete all pre-major courses with a 2.5 or higher grade-point average. Entry into the pre-major does not guarantee admission to full major status. Upon satisfactory completion of the following pre-major requirements, students may petition to be accepted into full major status: Economics 1 and 2 (or 109); PSTAT 5E; Mathematics 3A, 7B, 7C or 3A-B-C or 3AM-BM-CM; 5A-B-C or 10A-B-C; and 8. Upper-division students transferring from another major or institution may substitute Economics 109 for Economics 1 and 2. *Note: Physics 1 or 6A is prerequisite to Mathematics 5A-B.*

Upper-division major. Forty upper-division units in economics and mathematics are required, excluding Economics 109 and 110; Mathematics 100A-B, 193. The 40 units must include Economics 104A-B and 105; Mathematics 108A-B and 118A; and Economics 140A-B; and 8 units of upper-division economics electives. For breadth, further elective courses concerning optimization and modeling, such as Mathematics 132A-B-C, are recommended. Students should consult closely with their advisers in the Departments of Economics and Mathematics regarding their upper-division programs, particularly if they intend to pursue graduate study in a closely related area such as mathematical economics, applied mathematics, statistics, or operations research.

Honors Program in Mathematics

To enter the honors program in mathematics, the student must have completed 120 units of coursework with an overall grade-point average of at least 3.5 and at least 24 upper-division mathematics and statistics units with a grade-point average of at least 3.5 (excluding Math 100A-B, 193, and PSTAT 133A-B-C). To complete the honors program, the student must maintain a grade-point average of at least 3.5 in all upper-division and graduate mathematics and statistics courses (excluding Math 100A-B, 193, and PSTAT 133A-B-C) and complete one of the following: (a) Math 111A-B-C and 118A-B-C; (b) a three-quarter graduate sequence; or (c) together with an adviser, submit a Distinction in the Major proposal to the undergraduate committee for its approval. This proposal may consist of a program of mathematics and statistics courses to be completed, a project to be completed or a combination of a project and courses to be completed. Students who complete the honors program are awarded Distinction in the Major at the time of graduation.

Graduate Program

Candidates for admission to graduate programs offered by the Department of Mathematics are required to submit Graduate Record Examination (GRE) general and mathematics subject test scores. Candidates whose native language is not English or who did not receive a bachelor's or master's degree from a U.S. institution must take the Test of English as a Foreign Language (TOEFL). During 1992-93, foreign students need a minimum TOEFL score of 550 for admission consideration and a score of 575 for teaching assistantship consideration. Applicants for teaching assistant positions are encouraged to submit scores for the Test of Spoken English (TSE) at the time of application.

In addition to departmental requirements, candidates for graduate degrees must fulfill the university degree requirements found in the chapter "Graduate Education at UCSB."

In the following description of the M.A. and Ph.D. programs in mathematics, frequent mention will be made of "area requirements." Area requirements exist in the disciplines of algebra, applied algebra, analysis, applied mathematics, geometry/topology, theoretical computer science, and other areas in probability and statistics. Areas in probability and statistics require the approval of the graduate adviser. The area requirements are fulfilled by satisfactorily completing an examination and a one-year graduate course within the discipline. S/U grading is not allowed in the courses satisfying the area requirements. Complete descriptions of various area requirements and how they may be satisfied can be found in the publication Graduate Study in Mathematics, which is available from the department office.

Master of Arts—Mathematics

Admission

Candidates for admission must present a bachelor's degree with a major in mathematics, or the equivalent of such training. Entering students may be evaluated by examination in addition to the evaluation of their records. Whenever necessary, supplementary coursework will be required.

Degree Requirements

The department offers two plans for completing the degree: Plan 1 (thesis) and Plan 2 (area requirement).

Both plans require completion of 42 units with grades of at least B, 24 of which must be in graduate courses offered by the Department of Mathematics. The remaining 18 units may be selected from upper-division or graduate courses in mathematics, or in appropriate related fields with the approval of the Mathematics Graduate Committee. No more than 8 of the 24 graduate units may be in Math 596/598 combined; the remaining units will be mathematics courses in the 200 series.

Plan 1. In addition to the above, Plan 1 requires demonstration of adequate knowledge in linear algebra, modern algebra, real analysis, and complex analysis, and preparation of an acceptable thesis and oral defense of the thesis before a faculty committee. The student and thesis supervisor must present to the graduate committee for its approval a coherent coursework and thesis program approximately one year prior to expected graduation. The 24 graduate units in mathematics must include at least one full-year course sequence that satisfies one of the area requirements.

Plan 2. Students must satisfy the area requirements in the areas of algebra and analysis. A student who wishes to substitute a different area requirement for one of the above areas must petition the departmental graduate committee; such petitions will normally be approved if the student has had sufficient undergraduate coursework, with good grades, in the exempted area.

Master of Arts—Applied Mathematics

Admission

The candidate must (1) fulfill the scholarship requirements for graduate study; (2) hold a bachelor's degree in mathematics or a closely related field; and (3) have had undergraduate coursework in linear algebra, differential equations, advanced calculus, and in some area in which mathematics is applied. Evaluation of the candidate's past work will be made by the admissions committee, and supplemental undergraduate courses will be required when necessary.

Degree Requirements

The department offers two plans for completing the degree: Plan 1 (thesis), and Plan 2 (area requirement). All candidates must complete 42 units with grades of B or better, 24 units of which must be in graduate course sequences approved and offered by the Department of Mathematics. No more than 8 of the 24 graduate units may be in Math 596/598 combined; the remaining units will be mathematics courses in the 200 series.

The remaining 18 units may be in upper-division or graduate-level courses in mathematics or, with the approval of the Graduate Committee, outside of mathematics, with a limit of 9 units outside the department.

Plan 1. Students must demonstrate mastery of applied algebra and applied analysis. This requirement may be fulfilled by passing each of the five sequences, Math 108A-B-C, 136A-B-C, 104A-B-C, 124A-B, and 122A-B with average grades of at least B in each sequence. (Some of this work may have been taken in the student's undergraduate program.) Equivalent coursework taken outside UCSB will be evaluated by the graduate committee. Plan 1 students must prepare an acceptable thesis under the supervision of a faculty member and defend it before a faculty committee. The student and thesis supervisor must present to the graduate committee for its approval a coherent course and thesis program approximately one year prior to expected graduation. The 24 graduate units in mathematics must include at least one full-year course sequence that satisfies one of the area requirements.

Plan 2. Students must satisfy two area requirements. One of these must be the area requirement in applied mathematics. The second area requirement shall be chosen by the student with the approval of his or her adviser. The student must also complete either Math 111A-B-C, Math 136A-B-C, or the equivalent, with a minimum grade of B in each quarter.

Doctor of Philosophy—Mathematics

The department offers the Ph.D. degree in mathematics.

Admission

A candidate for admission to the Ph.D. program in mathematics must fulfill the scholarship requirements for graduate study presented in the section of this catalog on graduate education and should have a strong undergraduate background in the mathematical sciences.

Degree Requirements

A student advances to candidacy for the degree by doing the following:

(a) Passing 72 units of 200-level graduate courses offered by the Department of Mathematics, with a grade of at least B or S in each course (required grades for coursework satisfying area requirements may be higher). These 72 units must include at least one further full-year graduate sequence, not being used to satisfy requirement (b).

(b) Satisfying three area requirements, normally algebra and analysis, plus a third area to be determined in consultation with the graduate adviser. S/U grading is not allowed in coursework involving area requirements in (a) or (b).

(c) Exhibiting reading proficiency in one foreign language, normally chosen from French, German, Russian, Chinese, and Japanese.

(d) Passing an oral examination on the proposed plan and subject matter for the doctoral dissertation and on mathematical topics related to the student's research.

After advancing to candidacy, the student completes the requirements for the degree by submitting an acceptable dissertation representing an original mathematical contribution, and defending this dissertation before a faculty committee.

Doctor of Philosophy—Mathematics (Science Applications specialization)

This track is intended for Ph.D. students who wish to combine mathematics with a scientific field where mathematics is applied. Typical (but not exclusive) examples of such fields include chemistry, computer science, economics, physics, various engineering disciplines.

Admission

A candidate for admission to this program must fulfill the scholarship requirements for graduate study presented in section of this catalog on graduate education and should have a strong undergraduate background in the mathematical sciences. In addition, the candidate should have completed sufficient coursework in a scientific field outside mathematics to permit graduate study in that field.

Degree Requirements

Requirements (b), (c), and (d) described above under the heading "Degree Requirements, Doctor of Philosophy—Mathematics" remain in force, as does the requirement concerning the thesis. Requirement (a) is changed as follows:

(a) Passing 48 units of graduate courses offered by the Department of Mathematics with a grade of at least B or S in each course. In addition, passing with the grade of B or better the equivalent of two one-year sequences (six quarters of graduate-level courses, 24 units) chosen to form a coherent program of study in one or more fields outside of mathematics, as approved by the graduate committee. During the first year in graduate school, the student is expected to submit a proposed program of study to the graduate committee for its review and approval.

Mathematics Courses

LOWER DIVISION

2A-B. Calculus with Algebra and Trigonometry

(6-6) STAFF

Prerequisites: the Algebra Diagnostic Test. Grade of "C" or better in Mathematics 2A to enroll in Mathematics 2B. Not open to students who have completed Mathematics 15, 3A, 3B, or their equivalents; or who have Advanced Placement credit in mathematics. Mathematics 2A is not equivalent to Mathematics 3A. Mathematics 2A-B is an acceptable prerequisite for Mathematics 3C.

Combines Mathematics 15 and 3A-B. Intended for students not adequately prepared for mathematics 3A. An intensive program enabling students to fulfill mathematics prerequisites on schedule.

3A. Calculus with Applications, First Course

(4) STAFF

Prerequisites: Algebra Diagnostic Test. Reduced credit of two units will be given to students who have received credit for Mathematics 2A or 34A. Student with Advanced Placement credit should contact the department. Not open to students who have completed Mathematics 3AM.

Differential calculus including analytic geometry, functions and limits, derivatives, techniques and applications of differentiation, logarithmic and trigonometric functions.

3AM. Calculus with Computer

(4) STAFF

Prerequisites: Algebra Diagnostic test. Reduced credit of two units will be given to students who have received credit for Mathematics 34A. Students with Advanced Placement Credit should consult the department. Not open to students who have completed Mathematics 3A.

Differential calculus including analytic geometry, functions, limits, derivatives, techniques and applications of differentiation, logarithmic, and trigonometric functions. This course differs from Mathematics 3A in that a computer will be used by each student as an integral part of the course.

3B. Calculus with Applications, Second Course

(4) STAFF

Prerequisites: grade of Cor better in Mathematics 3A. Not open to students who have received credit for Mathematics 2B, 3BM, or 7B. Reduced credit of two units will be given to students who have received credit for Mathematics 34B. Students with Advanced Placement should contact the department.

Integral calculus including definite and indefinite integrals, techniques of integration with applications in mathematics and physics.

3BM. Calculus with Computer

(4) STAFF

Prerequisites: grade of C or better in Mathematics 3A or 3AM, or equivalent. Not open to students who have received credit for Mathematics 7B. Reduced credit of 2 units will be given to students who have received credit for Mathematics 34B. Not open to students who have completed Mathematics 3B.

Integral calculus including definite and indefinite integrals, techniques of integration, with applications in mathematics and physics. This course differs from Mathematics 3A in that a computer will be used by each student as an integral part of the course.

3C. Calculus with Applications, Third Course

(4) STAFF

Prerequisites: grade of C or better in Mathematics 2B, 3B, or 7B. Not open to students who have received credit for Mathematics 3CM or 7C.

Calculus of several variables including partial derivatives, multiple integrals, infinite series, with applications in mathematics and physics.

3CM. Calculus with Computer

(4) STAFF

Prerequisites: grade of C or better in Mathematics 3M, 3B, 7B, or equivalent. Not open to students who have received credit for Mathematics 7C. Not open to students who have completed Mathematics 3C.

Calculus with several variables including partial derivatives, multiple integrals, infinite series, with applications in mathematics and physics. This course differs from Mathematics 3C in that a computer will be used by each student as an integral part of the course.

5A. Applied Differential Equations

(4) STAFF

Prerequisites: Physics 1 or 6A or equivalent, and a grade of C or better in Mathematics 3C or 7C or equivalent. Not open for credit to students who have completed Mathematics 10A.

First order differential equations; mathematical modeling; second-order linear differential equations, including variation of parameters; Laplace transforms; systems of differential equations; qualitative theory; and stability of solutions.

5B. Applied Linear Algebra

(4) STAFF

Prerequisites: Physics 1 or 6A or equivalent; and a grade of C or better in Mathematics 5A or equivalent. Not open for credit to students who have completed Mathematics 10B or 11.

Systems of linear equations; vectors; matrices; n-dimensional Euclidean space; linear independence; eigenvalues and eigenvectors and their applications to systems of differential equations; and Fourier series.

5C. Advanced Calculus with Applications

(4) STAFF

Prerequisites: Physics 1 or 6A or equivalent; and a grade of C or better in Mathematics 5B or equivalent. Not open for credit to students who have completed Mathematics 10C.

Differential vector calculus; gradient; Lagrange multipliers; vector fields; integral calculus of several variables; line integrals, surface integrals, Green's theorem; divergence theorem; Stokes's theorem; and an introduction to partial differential equations.

5CY. Advanced Calculus with Applications, Part Two

(1) STAFF

Prerequisites: Physics 1 or 6A or equivalent; and Mathematics 5B or equivalent. Departmental approval must be obtained by the end of the first week of the quarter in order to receive credit for the course.

Designed for transfer students who have completed the first three units of Mathematics 5C through transfer work. Course will meet twice a week for five weeks. Topics: Introduction to Fourier series, Laplace's equation, partial differential equations, and applications.

7B. Honors Calculus, First Course

(5) STAFF

Prerequisites: a grade of A- or better in Mathematics 3A or 3AM, or a score of 4 or 5 on the Advanced Placement AB examination, or one quarter of transfer credit in calculus with a grade of A- or better. Not open to students who have completed Mathematics 3B or 3BM.

An enriched study of the integral calculus of one variable. Intended to provide a challenge to highly motivated and able students who have a strong interest in mathematics.

7C. Honors Calculus, Second Course

(5) STAFF

Prerequisites: a grade of A- or better in Mathematics 3B or 3BM, or a grade of B or better in Mathematics 7B, or a score of 4 or 5 on the Advanced Placement BC examination, or two quarters of transfer credit in calculus with a grade of A- or better. Not open to students who have completed Mathematics 3C or 3CM.

An enriched study of infinite series and sequences and multivariable calculus. Intended to provide a challenge to highly motivated and able students who have strong interest in mathematics.

8. A Transition to Higher Mathematics

(4) STAFF

Prerequisite: Mathematics 3A or equivalent.

Introduction to the elements of propositional logic, techniques of mathematical proof, and fundamental mathematical structures, including sets, functions, relations, and other topics as time permits. Mastery of this amterial is essential for students planning to major in mathematics.

10A-B-C. Second Year Honors Calculus

(5-5-5) STAFF

Prerequisites: a grade of C or better in Mathematics 7C or consent of instructor to enroll in Mathematics 10A; a grade of C or better in Mathematics 10A to enroll in Mathematics 10B; and a grade of C or better in Mathematics 10B to enroll in Mathematics 10C. Students who have done exceptionally well in Mathematics 3A-B-C or 3AM-BM-CM are encouraged to consider enrolling in Mathematics 10A. Not open to students who have completed Mathematics 5A-B-C.

An enriched study of linear algebra, ordinary differential equations, vector calculus, multivariable calculus (integral theorems), and other selected topics. Intended for highly motivated and able students who have a strong interest in mathematics.

12A. Modern Introductory Mathematics of Finance

(4) STAFF

Prerequisite: at least two years of high school algebra or equivalent.

Intended for students seeking a general background in mathematics of finance. A calculator with exponential and logarithm function is needed. Topics: simple and compound interest simple and general annuities, loans with two interest notes, retirement plans, and life insurance.

13. Mathematics Appreciation

(3) STAFF

Prerequisites: geometry and intermediate algebra..

A course for the non-major intended to promote a better understanding of the nature of mathematics, the character and origin of different subject fields in mathematics, and the sources of mathematical research.

15. Precalculus
(4) STAFF
Prerequisite: Algebra Diagnostic Test. Students who have earned a grade of "C" or higher in a course with a prerequisite including algebra or trigonometry may not receive credit for this course.

A function approach integrating algebra and trigonometry. Topics include: one-on-one and onto functions; inverse functions; properties and graphs of polynomial, rational, exponential, and logarithmic functions; properties and graphs of trigonometric and inverse trigonometric functions; trigonometric identities; trigonometric equations.

31A-B. Introduction to Discrete Mathematics.
(4-4) STAFF
Prerequisite: Mathematics 8.

Introducion to the theory of counting; graphs, trees and algorithims; introduction to boolean algebra and boolean functions; sequential circuits, additional topics from discrete probability theory, mathematical games, and finite difference equations.

33. Introductory Linear Modeling
(4) STAFF
Prerequisite: intermediate algebra or two years of high school algebra.

Linear models, systems of linear equations, matrices, linear programming, optimization, simplex method, probability, game theory, mathematics of finance.

34A. Calculus for Social and Life Sciences
(4) STAFF
Prerequisite: Mathematics 15 or the Algebra Diagnostic Test. Not open to students who have received credit for Mathematics 3A or equivalent.

Calculus of one variable including differentiation curve sketching, max-min problems, exponential and logarithm functions, introduction to integration.

34B. Calculus for Social and Life Sciences
(4) STAFF
Prerequisites: Mathematics 34A, 3A, or 3AM. Not open for credit to students who have completed Mathematics 3B, 3BM, or 7B.

Techniques of integration, calculus of several variables including partial derivatives and max-min problems, multiple integrals, differential equations including separable equations and systems of linear equations.

94. Group Studies in Mathematics
(1-4) STAFF
Prerequisite: consent of instructor.

Lectures and discussions on special topics.

UPPER DIVISION

100A. Mathematics for Elementary Teaching, I
(3) STAFF
Prerequisites: high school algebra and geometry. Junior or senior standing and consent of instructor. May be taken concurrently with Mathematics 100B. Cannot be used to satisfy any mathematics or mathematical sciences major requirement.

Set theory, numeration systems, properties of whole numbers and rational numbers, justification of computational procedures.

100B. Mathematics for Elementary Teaching, II
(3) STAFF
Prerequisites: high school algebra and geometry. Junior or senior standing and consent of instructor. May be taken concurrently with Mathematics 100A. Cannot be used to satisfy any mathematics or mathematical sciences major requirement.

Geometric concepts including lines, points, planes, curves, triangles, area, decimal numbers, measurement including and introduction to the metric system, geometric transformations, symmetry, and elementary concepts from probability.

101A. Classical Number Systems
(4) STAFF
Prerequisite: Mathematics 3C or 7C or 34B or equivalent. Not open to students who have received credit for Mathematics 118A.

Especially suitable for prospective teachers. A conceptual rather than an axiomatic development starting with the natural numbers and progressing through the integral rational, real, and complex number systems, treating the basic properties of each.

101B. Elementary Real Analysis
(4) STAFF
Prerequisite: Mathematics 101A. Not open to students who have received credit for Mathematics 118A.

Especially suitable for prospective teachers. Basic theory of real valued functions of a single real variable, limits, continuity, sequential convergence, differentiation, integration, fundamental theorem of calculus.

102A-B. Modern Elementary Geometry
(4-4) STAFF
Prerequisite: Mathematics 3B or 7B or 34B or equivalent.

Especially suitable for prospective teachers. Critical review of the foundations and basic structure of plane and solid Euclidean geometry, based on the Birkhoff axioms. Special topics in geometry.

103. Introduction to Group Theory
(4) STAFF
Prerequisite: Mathematics 8. Not open to students who have received credit for Mathematics 111A.

Intended primarily for prospective teachers. Permutation groups, cyclic groups, theory of finite groups, group homomorphisms and isomorphisms, and Abelian groups. Applications to number theory and geometry.

104A. Introduction to Numerical Analysis
(4) STAFF
Prerequisites: Mathematics 5B; and a working knowledge of Fortran programming language.

Numerical methods for solving nonlinear equations and systems of linear equations. Topics: error analysis, iterative methods for solving linear and nonlinear equations, Gauss elimination and matrix inversion, matrix norms, the determination of eigenvalues and eigenvectors. Students will write computer programs in FORTRAN.

104B. Numerical Analysis
(4) STAFF
Prerequisite: Mathematics 104A.

Numerical methods for interpolation and approximation, numerical differentiation and integration. Students will use a computer.

104C. Differential Equations with Numerical Methods
(4) STAFF
Prerequisite: Mathematics 104B

Ordinary differential equations with an emphasis on numerical methods, including Euler's method, Runge-Kutta methods, systems of differential equations. Additional topics may include: boundary-value problems, numerical methods for solving partial differential equations. Students will use the computer.

105. Computer-Based Mathematics for Secondary School Teachers
(4) STAFF
Prerequisites: Mathematics 8, and 5B or 108A; and Computer Science 10 and 11FO.

Selected topics in algebra, number theory, geometry, matrix theory, calculus, and probability theory, with emphasis on computational methods. The study of a programming language will be interwoven with the mathematical topics. Students will use the Microcomputer Laboratory.

108A-B. Introduction to Linear Algebra
(4-4) STAFF
Prerequisites: Mathematics 5B and 8.

Vector spaces, inner product spaces, linear transformations, matrices, systems of linear equations, equivalence, determinants, eigenvectors and eigenvalues, similarity, diagonalization, normal matrices, congruence, orthogonal, and unitary transformations.

108C. Advanced Linear Algebra
(4) STAFF
Prerequisites: Mathematics 108A-B.

Invariant factors and elementary divisors, canonical forms, topics from advanced matrix theory, applied linear algebra, and group representation theory.

109A-B. Introduction to Mathematical Logic
(4-4) STAFF
Prerequisites: Mathematics 108A, or 111A, or 136; or Computer Science 136 or 186; or Philosophy 183. Same course as Computer Science 109A-B.

An introduction to mathematical logic with applications in computer science and mathematics. Possible topics include propositional and predicate calculi, models, proof systems, decidability and undecidability, automated theorem-proving, unification, logic programming, and program verification.

110. Set Theory
(4) STAFF
Prerequisite: Mathematics 108B or 109A or 111A or 118A.

Fundamentals of set theory, ordinal numbers, cardinal arithmetic, and transfinite methods.

111A. Introduction to Abstract Algebra
(4) STAFF
Prerequisites: Mathematics 108A, which may be taken concurrently. Not open for credit to students who have completed Mathematics 136A.

An introduction to algebraic structures, with an emphasis on groups.

111B-C. Abstract Algebra
(4-4) STAFF
Prerequisite: Mathematics 111A or 136A.

Rings, fields, Galois theory.

113. Non-Euclidean Geometry
(4) STAFF
Prerequisite: Mathematics 5B.

An introduction to hyperbolic geometry with some discussion of other non-Euclidean systems.

114A-B. Geometry and Convexity
(4-4) STAFF
Prerequisites: Mathematics 3C or 7C; and 5B; or consent of instructor.

An introduction to the study of convex bodies and surfaces (following a development of basic metric topology and affine algebra), with special emphasis on mathematical methods which are important in many fields of mathematics.

115A. Introduction to Number Theory
(4) STAFF
Prerequisites: Mathematics 5B and 8.

Divisibility, congruences, primitive roots and indices, quadratic residues and the quadratic reciprocity law, number-theoretic functions.

115B. Number Theory
(4) STAFF
Prerequisites: Mathematics 115A.

Diophatine equations, the distribution of primes, quadratic forms, continued fractions and the approximation of real numbers, algebraic number theory, partitions.

116. Combinatorial Analysis
(4) STAFF
Prerequisite: Mathematics 8.

Elementary counting principles, binomial coefficients, generating functions, recurrence relations, the principle of inclusion and exclusion, distributions and partitions, systems of distinct representatives, applications to computation.

118A-B-C. Introduction to Real Analysis
(4-4-4) STAFF
Prerequisites: Mathematics 5A-B-C or equivalent; and 108A.

The real number system, elements of set theory, continuity, differentiability, the Riemann integral, functions of bounded variation, implicit function theorems, convergence processes, special topics.

119A-B. Ordinary Differential Equations
(4-4) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent.

Existence and uniqueness of solutions to ordinary differential equations, systems of equations, stability theory, examples from mechanics, calculus of variations, and more advanced topics.

122A-B. Introduction to Theory of Complex Variables

(4-4) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent.

Complex numbers, functions, differentiability, series extensions of elementary functions, complex integration, calculus of residues, conformal maps, mapping functions, applications.

124A-B. Advanced Engineering Mathematics

(4-4) STAFF

Prerequisites: Mathematics 122A and concurrent enrollment of 122B or consent of instructor.

Advanced ordinary differential equations, partial differential equations, Fourier and Laplace transforms, separation of variables and generalized functions. Bessel functions, Legendre functions, and the gamma function. Other topics such as Sturm and Liouvile theory, Hilbert spaces, potential theory, and the spectral theorem may be covered.

132A. Introduction to Operations Research

(4) STAFF

Prerequisites: Mathematics 3A-B-C and 5B; or equivalent.

Linear programming, the simplex method, duality, applications to the transportation and assignment problems, sensitivity analysis, problem formulation.

132B. Introduction to Operations Research

(4) STAFF

Prerequisite: Mathematics 132A.

Network analysis: shortest route, minimal spanning tree and maximal flow problems; PERT including the critical path method; dynamic programming; game theory; integer programming, nonlinear programming.

132C. Introduction to Operations Research

(4) STAFF

Prerequisites: Mathematics 132A-B and either PSTAT 120A or PSTAT 121A or Economics 141A. Same course as PSTAT 132C.

Review of probability; queuing theory; waiting models; birth and death processes; applications; inventory theory; Markov chains, applications and decision models; computer simulation; component and system reliability; decision analysis; list and area searching.

136A. Introduction to Applied Algebra

(4) STAFF

Prerequisites: Mathematics 108A, which may be taken concurrently.

An introduction to algebraic structures including semigroups and groups.

136B-C. Applied Algebra

(4-4) STAFF

Prerequisite: Mathematics 111A or 136A.

Boolean algebras, fields and additional topics in applied algebra such as the mathematical theory of finite state machines, and the theory and construction of error correcting codes.

137A-B. Graph and Network Theory

(4-4) STAFF

Prerequisite: Mathematics 108A or 111A or 136A or consent of instructor.

Basic elements of graph theory including paths, circuits, trees, planarity, duality, covering, matching. Elements of network theory.

144A. Discrete and Probabilistic Mathematical Modeling

(4) STAFF

Prerequisites: PSTAT 120A-B or PSTAT 121A-B; and Computer Science 10 and 11FO.

Fundamental modeling principles. Topics from: simulation, optimization, networks, decision trees, random walks and difference equations, Markovian analysis, game theoretic models, applications.

144B. Continuous Mathematical Modeling

(4) STAFF

Prerequisite: Mathematics 5C or 104C; and Computer Science 10 and 11FO.

Differential equations, partial differential equations, and integral equation models. Topics selected from: derivation of model equations from first principles, conservation, solution techniques, both analytical and numerical, perturbation analysis, applications.

145. Introduction to Topology

(4) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent.

Metric spaces, continuity, compactness, classification of surfaces, Euler characteristic, and fundamental groups. Additional topics at the discretion of the instructor.

146. Calculus on Manifolds

(4) STAFF

Prerequisites: Mathematics 8, 108A-B and 118A.

Calculus of several variables, inverse function theorem, manifolds in n-dimensional Euclidean space, differential forms, integration on manifolds, and Stokes' theorem.

147. Metric Differential Geometry

(4) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent.

Differential geometry of surfaces in three-dimensional Euclidean space, first and second fundamental forms, Gaussian and mean currature, geodesics, and Gauss-Bonnet theorem.

150A-B-C. Introduction to the Theory of Computation

(4-4-4) STAFF

Prerequisites: Mathematics 109A-B or 111A-B or 136A-B, or consent of instructor.

An introduction to algorithmic systems and their complexity, partial recursive functions, and subrecursive functions and sets. Abstract automata, the theory of formal languages. An introduction to computational complexity theory.

155. Introduction to Combinatorial Algorithms

(4) STAFF

Prerequisite: Mathematics 111A or 116 or 136A or 137A or consent of instructor.

Representation of combinatorial objects, searching, sorting, graphs. Emphasis to be given to questions of efficiency of algorithms.

160A-B-C. Advanced Calculus for Physical Sciences and Engineering

(4-4-4) STAFF

Prerequisites: Mathematics 5A-B-C or equivalent. This course is intended for students in the mathematical and physical sciences who need to know the topics covered in Mathematics 124A-B in greater mathematical depth.

Topics include limits, sequences, series, uniform convergence, continuity, uniform continuity, differentiation, integration, linear functionals, Fourier series, Fourier and Laplace transforms, calculus on surfaces, theorems of Gauss, Green, and Stokes, calculus of variations, linear operators, spectral theory, applications to the physical sciences and engineering.

175. Control Theory

(4) STAFF

Prerequisites: Mathematics 5A-B-C. Not open to students who have completed Mathematics 175B.

Linear control of systems, controllability, observability, linear feedback, state observers, realization of constant systems, stability, Liapunov theory, and applications of Liapunov theory to linear systems.

176A. Calculus of Variations

(4) STAFF

Prerequisites: Mathematics 5A-B-C. Not open to students who have completed Mathematics 175A.

Formulation of physical and geometrical problems, Euler-Lagrange equations, several dependent variables, undetermined end points, constrained extreme and independent variables, Hamilton's principle with application to dynamics of particles, and Sturm-Liouville problems.

176B. Optimal Control

(4) STAFF

Prerequisite: Mathematics 176A or consent of instructor. Not open to students who have completed Mathematics 175C.

Performance indices, linear regulator problems, Riccati equation, Pontryagin's minimum principle and state inequality constraints, switching function and bang-bang control, minimum time problems, and minimum control effort problems.

190. Special Topics in Mathematics

(4) STAFF

Prerequisites: upper-division standing; an equivalent lower-division mathematics course; consent of instructor. No more than 8 units of major credit will be given, but course may be repeated an unlimited number of times.

Information about the special topics to be presented may be obtained from the office of the Department of Mathematics.

193. Internship in Mathematics

(1-4) STAFF

Prerequisite: consent of instructor and department. May be repeated for credit up to maximum of 4 units. Credit will not be given toward upper-division mathematics major requirements.

Faculty-sponsored academic internship in industrial or research firms.

194. Group Studies for Advanced Students

(1-4) STAFF

Prerequisite: consent of instructor. Enrollment normally limited to 12 or fewer students.

Lectures and discussion on special topics.

197A. Senior Thesis

(1-4) STAFF

Prerequisites: Open to senior majors only; consent of department and instructor. Students must have a minimum overall grade-point average of 3.0 and a 3.5 or better grade-point average in the major. Up to four units may apply to the major. Up to eight units total in all Mathematics 197/199RA courses may apply toward the major.

Independent research under the supervision of a faculty member which will result in a senior thesis. Students will concentrate reading and gathering material for a thesis.

197B. Senior Thesis

(1-4) STAFF

Prerequisites: Mathematics 197A. Open to senior majors only; consent of department and instructor. Students must have a minimum overall grade-point average of 3.0 and a 3.5 or better grade-point average in the major. Up to four units may apply to the major. Up to eight units total in all Mathematics 197/199/199RA courses may apply toward the major.

Independent research under the supervision of a faculty member which will result in a senior thesis. Students will concentrate on writing a thesis

199. Independent Studies in Mathematics

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in mathematics; 4) have consent of instructor and department. Students are limited to five units per quarter and 30 units total in all 198/199/199RA courses. Only 8 units total in all Mathematics 197/199/199RA courses may apply toward the major.

Coursework shall consist of academic research supervised by a faculty member.

199RA. Independent Research Assistance

(1-4) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in mathematics; 4) have consent of instructor and department. Students are limited to five units per quar-

ter and 30 units total in all 198/199/199RA courses. Only 8 units total in all Mathematics 197/199/199RA courses may apply toward the major.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

The department does not offer all the courses listed below each year, but does offer the following courses every year: Mathematics 201A-B-C, Mathematics 202A-B-C, Mathematics 204A, Mathematics 220A-B-C, Mathematics 226A-B-C. The department offers approximately eight other one-year courses in mathematics, and one in computer science each year. Graduate courses of interest to computer science students are listed in the mathematics offerings. These courses are numbered Mathematics 251, 252, 253, 254, 255, and 261.

201A-B-C. Real Analysis
(4-4-4) SIMONS

Prerequisites: Mathematics 118A-B-C or consent of instructor.

Topics in functions of a real variable, measure and integration and functional analysis.

202A-B-C. Complex Analysis
(4-4-4) SIDERIS

Prerequisites: Mathematics 118A-B-C, 122A, or consent of the instructor.

A rigorous development of the more important topics in complex analysis.

204A-B-C. Numerical Methods for Partial Differential Equations
(4-4-4) CRANDALL

Prerequisites: Mathematics 104A-B-C, 108A, 118A, 119A, or consent of instructor.

Topics include numerical treatment of partial differential equations, elliptic boundary value problems, hyperbolic and parabolic equations, stability, error estimates, accelerated convergence numerical treatment of integral equations, variational techniques Newton method applied to operator equations, and monotone operators.

209. Set Theory
(4) STAFF

Prerequisite: consent of instructor.

Study of axiomatic set theory; topics include relations and functions, orderings, ordinal and cardinal numbers and their arithmetic, transfinite constructible sets, consistency and independence results of Godel and Cohen.

210A-B-C. Advanced Topics in the Theory of Real Functions
(4-4-4) BRUCKNER

Prerequisites: Mathematics 201A-B-C. May be repeated for credit with instructor and department approval.

Special topics chosen by the instructor. Topics may include: the integrals of Perron, Denjoy, Khintchine, and others; the Baire classification of functions and the Borel classification of sets; the measure problem; density theorems; negligible sets; and functions of several real variables.

211A-B-C. Advanced Topics in Complex Variables
(4-4-4) STAFF

Prerequisite: consent of instructor. May be repeated for credit with instructor and department approval.

Special topics chosen by the instructor. Possible topics include: several complex variables; Riemann surfaces, potential theory, H^p spaces; entire and meromorphic functions; cluster sets; conformal mappings.

218A-B-C. Combinatorial Mathematics
(4-4-4) STAFF

Prerequisites: Mathematics 108A-B and 111A-B or 136A-B.

Principle of inclusion and exclusion, recurrence relations, Ramsey's theorem, Polya's theorem, partially ordered sets, Mobius functions, arrangements with restrictions, systems of distinct representatives. Latin squares and rectangles, block designs, finite geometries, Hadamard matrices, difference sets, (0,1) matrix theory, extremal problems.

220A-B-C. Modern Algebra
(4-4-4) GOODEARL

Prerequisites: Mathematics 108A-B and 111A-B or consent of instructor.

Group theory, ring and module theory, field theory, Galois theory, other topics.

222A-B-C. Topics in Group Theory
(4-4-4) BACHMUTH

Prerequisites: Mathematics 108A-B and 111A-B-C, or consent of instructor. May be repeated for credit with instructor and department approval.

Selected topics in group theory.

223A-B-C. Topics in Ring Theory
(4-4-4) STAFF

Prerequisites: Mathematics 108A-B and 111A-B-C, or consent of instructor. May be repeated for credit with instructor and department approval.

Selected topics in ring theory.

224A-B-C. Topics in Linear Algebra
(4-4-4) THOMPSON

Prerequisites: Mathematics 108A-B-C or consent of instructor. May be repeated for credit with instructor and department approval.

Selected topics in linear algebra.

225A-B-C. Topics in Number Theory
(4-4-4) STOPPLE

Prerequisites: Mathematics 108A-B and 111A-B-C, or consent of instructor. May be repeated for credit with instructor and department approval.

Selected topics in number theory.

226A. Foundations of Topology
(4) LONG

Prerequisite: Mathematics 118A or equivalent.

Topological spaces, continuity, homeomorphisms, connectivity, compactness, subspaces, product spaces, quotient spaces, metric spaces, paracompactness, separation axioms, Urysohn's Lemma.

226B. Manifolds
(4) LONG

Prerequisite: Mathematics 226A or consent of instructor.

Topological manifolds, differential manifolds, inverse and implicit function theorems, Brown-Sard theorem, Transversality, tangent bundles, normal bundles, bordism and cobordism, classification of low dimensional manifolds, handle body structures.

226C. Homotopy Theory
(4) LONG

Prerequisite: Mathematics 226B or consent of instructor.

Homotopy groups, exact sequences, fiber spaces, covering spaces, van Kampen theorem.

227A-B-C. Advanced Topics in Geometric and Algebraic Topology
(4-4-4) COOPER

Prerequisite: consent of instructor. May be repeated for credit with instructor and department approval.

Topics, varying from year to year, include piecewise linear and differential topology, manifolds, fiber bundles and fiber spaces, homotopy theory, and spectral sequences.

228A-B-C. Topics in Functional Analysis
(4-4-4) BIRNIR/ROBERTSON

Prerequisites: Mathematics 201A-B-C or consent of instructor.

Selected topics in functional analysis.

229A-B-C. Hilbert Space
(4-4-4) STAFF

Prerequisites: Mathematics 201A-B-C and 111A-B.

Operator theory, *-algebras of operators, both weakly closed (von Neumann algebras) and norm closed (C*-algebras). Unitary representations of locally compact groups and *-representations of C*-algebras.

230A-B-C. Topological Groups
(4-4-4) STAFF

Prerequisites: Mathematics 220A, 226A-B-C.

General properties of topological groups. Unitary representations of compact groups. Duality and structure of locally compact Abelian groups. Haar measure. Unitary representations of locally compact groups. Harmonic analysis. Special topics.

231A-B-C. Lie Groups and Lie Algebras
(4-4-4) Staff

Prerequisite: consent of instructor.

Differentiable manifolds, definition and examples of Lie groups, Lie group-Lie algebra correspondence, nilpotent and solvable Lie algebras, classification of semi-simple algebras over the complexes, representations of Lie groups and LiE ALGEBras, special topics.

232A-B-C. Algebraic Topology
(4-4-4) SCHARLEMANN

Prerequisites: Mathematics 108A-B and 145, or consent of instructor.

Singular homology and cohomology, exact sequences, Hurewicz theorem, Poincare duality.

233A-B-C. Nonlinear Functional Analysis
(4-4-4) STAFF

Prerequisites: Mathematics 201A-B-C or consent of instructor.

Minimax theorems, fixed-point theorems, multifunctions, convex analysis, variational analysis, optimization.

237A-B-C. Algebraic Geometry
(4-4-4) STAFF

Prerequisites: Mathematics 220A-B-C or consent of instructor.

Affine/projective varieties, Hilbert's Nullstellensatz, morphisms of varieties, rational maps, dimension, singular/nonsingular points, Blowing up of varieties, tangent spaces, divisors, differentials, Rieman-Roch theorem. Special topics include: elliptic curves, intersection numbers, Bezout's theorem, Max Noether's theorem.

239A-B-C. Applied Discrete Mathematics
(4-4-4) STAFF

Prerequisites: Mathematics 111A-B-C or 136A-B or 137A-B or 150A-B, or consent of instructor for Mathematics 239A; Mathematics 239A or consent of instructor for Mathematics 239B; Mathematics 239B or consent of instructor for Mathematics 239C.

Combinatorics on words. Variable length codes. Rewriting systems. Applications to mathematical models for problems in cryptography fault tolerant systems, and path systems in graphs.

240A. Manifolds and Differential Geometric Structures
(4) WEI

Prerequisite: Mathematics 118A or consent of instructor.

Manifolds, vector bundles, fiber bundles, differential forms and integration. Lie groups and Lie algebras, de Rham cohomology.

240B-C. Global Riemannian Geometry
(4-4) WEI

Prerequisites: Mathematics 240A is prerequisite to 240B. Mathematics 240B is prerequisite to 240C.

Riemannian geometry, connections, and curvature. More advanced topics such as: Morse theory of geodesics, minimal surfaces, Laplace operator on a Riemannian manifold and Hodge's theorem.

241A-B-C. Topics in Differential Geometry
(4-4-4) STAFF

Prerequisite: consent of instructor. May be repeated for credit with instructor and department approval.

Topics which vary from year to year, such as: minimal submanifolds of Riemannian manifolds, complex differential geometry, differential geometry of gauge theories.

243A-B-C. Ordinary Differential Equations
(4-4-4) STAFF

Prerequisites: Mathematics 119A-B; consent of instructor.

Ordinary differential equations in real and complex domains. Existence and differentiability of solutions. Analysis of singular points. Poincare-Bendixson theorem, perturbation theory, Sturm-Liouville theory, asymptotic expansions, stability.

245A-B-C. Methods of Applied Mathematics (Linear Theory)

(4-4-4) SLOSS

Prerequisites: Mathematics 118A or consent of instructor.

Ordinary differential equations with one and two point boundary data. Linear integral equations, Green's functions. Eigenvalue problems. Fourier integral. Partial differential equations. Equations with initial and boundary data, calculus of variations, applications to classical and quantum mechanics, electromagnetism, optics. Systems of differential equations, stability, feedback, optimal control, frequency domain methods, random processes and differential equations, analog and digital filters, UNsteady behavior, applications to electrical and mechanical control systems.

246A-B-C. Partial Differential Equations

(4-4-4) PONCE

Prerequisites: Mathematics 118A and Mathematics 201A-B-C. Also recommended: Mathematics 228A-B-C or 229A-B-C. An undergraduate course in partial differential equations is recommended.

Cauchy-Kowaleski theorem. Characteristics. Theory of initial value and boundary value problems for elliptic, hyperbolic, and parabolic equations. Existence and uniqueness of solutions.

247. Numerical Solution of Ordinary Differential Equations

(4) STAFF

Prerequisite: Mathematics 104B.

Solution of boundary value problems; Dahlquist stability; linear eigenvalue problems; stiff equations.

248. Matrix Computations

(4) STAFF

Prerequisite: Mathematics 104C.

LR-QR algorithms; error estimate for the solution of linear equations; linear least squares problem; linear programming; techniques for sparse matrices.

250A-B-C. Mathematical Logic

(4-4-4) STAFF

Prerequisite: consent of instructor.

Introduction to axiomatic set theory. Equational logic. Formal systems in the first-order predicate calculus. Godel's completeness and incompleteness theorems. The existence of unsolvable problems. Introduction to the theory of recursive functions. Survey of model theory, including the ultraproduct construction, compactness theorem, elementary extensions, Craig's interpolation lemma, saturated models.

251A-B-C. Foundations of Computer Science

(4-4-4) BOOK

Prerequisite: Mathematics 150A-B or consent of instructor.

Basic concepts in the theory of computation. Formal models of algorithms and algorithmic systems—their completeness, correctness, complexity, and representation. Automation and formal language theory. Program schemes. Introduction to computational complexity.

252A-B. Theory of Formal Languages

(4-4) STAFF

Prerequisite: Mathematics 251A.

Structure theory of classes of languages and their specification by means of generative devices, machines, and algebraic characterizations. Decidable and undecidable properties and the complexity of decidable properties. Much of the theory will be developed as an extension of the theory of context-free languages.

253. Computability and Recursive Functions

(4) STAFF

Prerequisite: Mathematics 150A-B or consent of instructor.

Turing machines and other abstract notions of Computability. Their equivalence and Church's hierarchies of recursive functions and predicates. Computational complexity.

254A-B-C. Algorithms and Complexity

(4-4-4) STAFF

Prerequisite: Mathematics 150A and 155 or consent of instructor.

Basic topics in the study of algorithms and concrete complexity, arithmetic and analytic complexity, and combinatorial optimization. Topics include: information theoretic arguments; searching graphs; NP-complete problems; lower bounds based on algebraic methods; FFT techniques; parallel computing.

255A-B-C. Selected Topics in Computational Complexity Theory

(4-4-4) STAFF

Prerequisites: Mathematics 251A-B-C or consent of instructor. May be repeated for credit with instructor and department approval.

The structure of complexity classes and complexity-bounded reducibilities; Kolmogorov complexity; relativizations; crypto-complexity; independence results; applications of logic and recursive function theory; random and interactive proof systems; circuit complexity.

260AA-ZZ. Seminars in Mathematics

(1-6) STAFF

Prerequisite: consent of instructor. May be repeated for credit.

Topics in algebra, analysis, applied mathematics, combinatorial mathematics, functional analysis, geometry, statistics, topology, by means of lectures and informal conferences with members of staff.

261AA-ZZ. Seminars in Computer Science

(1-6) STAFF

May be repeated for credit.

Topics in analysis of algorithms, automaton theory, computational complexity, formal Language theory, foundations of automatic programming, mathematical software, numerical computation, program structure, and verification. Lectures or informal conferences will be held with members of the staff.

280. Surveys of Contemporary Mathematics

(4) STAFF

Prerequisite: consent of instructor.

An expository treatment of a topic of current interest in mathematics with sufficient detail to impart the flavor of the field. Where appropriate, applications to other fields of mathematics will be included. The course is designed for the nonspecialist in the area treated. The topics will vary from quarter to quarter.

500. Teaching Assistant Practicum

(1-4) STAFF

Prerequisites: appointment as teaching assistant and departmental approved. No unit credit allowed toward degree.

Supervised teaching of undergraduate mathematics courses.

501. Teaching Assistant Training

(1-2) STAFF

Prerequisites: departmental and instructor approval. No unit credit allowed toward degree.

Consideration of ideas about the process of learning mathematics and discussion of approaches to teaching.

502. Teaching Associate Practicum

(1-5) STAFF

Prerequisite: appointment as associate. No unit credit allowed toward degree.

Supervised teaching of undergraduate courses.

510. Readings for Area Examinations

(2-6) STAFF

Prerequisites: enrollment in M.A. or Ph.D. program. Consent of instructor.

511. Foreign Language Training for Mathematical Research

(2-4) STAFF

Prerequisites: enrollment in Ph.D. Program. Consent of instructor.

596AA-ZZ. Directed Reading and Research

(1-6) STAFF

Prerequisites: graduate standing and consent of instructor. May be repeated for credit as determined by department chair.

598AA-ZZ. Master's Thesis Research and Preparation

(1-6) STAFF

Prerequisites: graduate standing and consent of instructor. No unit credit allowed toward degree.

599AA-ZZ. PH.D. Dissertation Preparation

(1-6) STAFF

Prerequisites: graduate standing and consent of instructor. Maximum of 12 units total.

Medieval Studies

Medieval Studies Program,
Division of Humanities and Fine Arts,
Ellison Hall 5806 and 5808;
Telephone (805) 893-2991.
Advisory Committee Co-Chairs:
C. Warren Hollister and Jeffrey B. Russell

Advisory Committee

Cynthia Brown, Ph.D. (French)

C. Warren Hollister, Ph.D. (History)

Jeffrey B. Russell, Ph.D. (History)

Alejandro Planchart, Ph.D. (Music)

Affiliated Faculty

C. Edson Armi, Ph.D. (Art History)

Juan Bautista Avalle-Arce, Ph.D. (Spanish)

Larry M. Ayres, Ph.D. (Art History)

Alva W. Bennett, Ph.D. (Classics)

Alfredo A. Bonadeo, Ph.D. (Italian)

Cynthia Brown, Ph.D. (French)

Walter H. Capps, Ph.D. (Religious Studies)

Harold A. Drake, Ph.D. (History)

Francis A. Dutra, Ph.D. (History)

Jody Enders, Ph.D. (French)

Sharon Farmer, Ph.D. (History)

Louise Fradenburg, Ph.D. (English)

Frank C. Gardiner, Ph.D. (English)

Richard D. Hecht, Ph.D. (Religious Studies)

C. Warren Hollister, Ph.D. (History)

R. Stephen Humphreys, Ph.D. (History)

Carol Braun Pasternak, Ph.D. (English)

Birger A. Pearson, Ph.D. (Religious Studies)

Giorgio Perissinotto, Ph.D. (Spanish)

Alejandro Planchart, Ph.D. (Music)

Jeffrey B. Russell, Ph.D. (History)

Harvey L. Sharrer, Ph.D. (Spanish and Portuguese)

Medieval studies is an interdisciplinary program in which the civilization of the Middle Ages can be explored from the viewpoints of many traditional subject areas: history, literature, religious studies, drama, art, and music. The student can build a program around one or two of these disciplines enriched by the others, or organize a program in which several subject fields are more or less balanced. Medieval studies presents the student with the opportunity to investigate a variety of creative aspects of a major human culture.

Although no graduate degrees are offered in medieval studies, the program provides enrichment and an interdisciplinary perspective to students pursuing M.A. and Ph.D. degrees in the medieval areas of various traditional majors. Doctoral candidates in medieval history, for example, are required to prepare a special field outside the Department of History relating to an aspect of medieval civilization. A series of lectures by distinguished medievalists from other universities in America and Europe, representing various disciplines, provides fresh intellectual perspectives to undergraduate medieval studies majors as well as to candidates for graduate degrees in medieval history, literature, art, music, and thought. In addition, undergraduate, graduate, and faculty medievalists meet periodically to hear and discuss scholarly papers and to exchange ideas about the many facets of medieval culture.

The UCSB Medieval Studies Program operates in close cooperation with the Medieval Academy of America, the Medieval and Renaissance Studies Center at UCLA, the International Congress on Medieval Studies, and the Haskins Society on Viking, Anglo-Saxon, Anglo-Norman, and Angevin History.

After completing specific prerequisites, students with a bachelor's degree in medieval studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Bachelor of Arts—Medieval Studies

Preparation for the major. History 4A-B. A reading knowledge of Latin and of at least one modern European language will be necessary for those who plan to continue their studies on the graduate level. In certain fields, Hebrew, Arabic, or Greek may be needed. For students not planning graduate work, a language is desirable but not required.

Upper-division major. Forty units from the following list, with the selection forming a coherent program that must be approved by a member of the medieval studies committee. Art History 153A-B-C-D-E-F-G-H-I-J-K, 155B; Comparative Literature 120; Dramatic Art 160B; English 111, 115, 119, 152A-B, 197 (when course content is appropriate to medieval studies); French 106A, 136A-B-C-D-E-X, 137X; German 120, 169; History 113B, 113Q, 114A-B-C, 114P, 115, 115P, 115Q, 116, 117A-B-C-P, 145A-B, 150A, 155A, 195 (when course content is appropriate); Italian 106X, 110A-B-C, 114X-Y-Z, 116X, 139X; Latin 103, 140; Medieval Studies 100, 199; Music Activities 148, 148S; Music 112A, 179; Portuguese 105A, 125A; Religious Studies 100, 101, 106, 115A-B, 116A-B, 131B-C, 134B, 135, 140A, 187, 188; Spanish 110A, 115A, 116, 119A, 121A-B, 122A-B, 123A, 183AA-ZZ (when course content is appropriate).

Medieval Studies Courses

UPPER DIVISION

100. Aspects of Medieval Civilization
(4) STAFF

An interdisciplinary course which examines a cultural whole: the political and intellectual history, literature, art, and architecture of a given center of medieval civilization (e.g., pre-conquest of England, medieval Spain, or the court of Charlemagne). Topics will vary and the course may be repeated for credit.

199. Independent Studies in Medieval Studies
(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in medieval studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

Special interdisciplinary study in medieval themes.

GRADUATE COURSES

The master's and doctoral degrees are offered by the several participating departments. No graduate degree in medieval studies is now offered.

Military Science (ROTC)

Military Science,
Division of Social Sciences,
Building 451;
Telephone (805) 893-3042
Department Chair: Robert E. Cole, Maj.

Faculty

Robert E. Cole, M.B.A., Chapman College, Major, Infantry, Professor (business administration)

Robert Huntley, B.A., California State University, Long Beach, Captain, Assistant Professor (political science)

Michael J. Murphy, M.Ed., Boston University, Captain, Assistant Professor (human services, human resources education)

The military science curriculum is a part of the Army Reserve Officers Training Corps (ROTC) program that leads to a commission as a second lieutenant in the Active Army, Army Reserve, or National Guard. Enrollment is OPEN to qualified men and women students.

The Army ROTC program is divided into two parts: (1) two years of lower-division subjects, or Basic Course, during which the student incurs no military obligation; and (2) two years of upper-division work, or Advanced Course, for selected students. Students in the Basic Course must complete Military Science 21 and five other lower-division military science courses before they can be considered for the Advanced Course. Freshmen and sophomores will be given priority in registering for lower-division military science courses.

Students who were unable to take the Basic Course may receive equivalent ROTC credit for these classes by attending a summer session at a designated Army installation. Attendees at off-campus summer sessions are given a travel allowance and are paid for their period of camp attendance.

Admission to the Advanced Course is limited to selected students who meet all academic and physical requirements. Enrollees must sign a contract with the U.S. Army agreeing to complete the course and to accept an officer's commission, if one is offered. In return, students receive a tax-free grant of $100 per month for each school month they are enrolled in the program. In addition, students may be eligible to join the National Guard or Reserve and receive pay for attending one weekend meeting a month.

Students selected for the Advanced Course attend a six-week camp between their first and second year of Advanced ROTC. They are given a travel allowance and are paid for their period of camp attendance.

In obtaining a baccalaureate degree, students must take courses from designated fields of study in many departments. The required courses include written communications, military history, human behavior, math reasoning, and computer literacy. After completion of the Advanced Course and upon obtaining a baccalaureate degree, students may be commissioned as second lieutenants in one of the specialties of the U.S. Army. Insofar as possible, the student's wishes and academic major will be considered in making assignments. Graduates are eligible for either active duty or part-time duty with the Army Reserve or National Guard. The period of active duty is normally three years. Students accepting ROTC scholarships incur a four-year active duty obligation. ROTC students who wish to obtain advanced degrees may be granted delays in reporting for active duty. Students commissioned as second lieutenants may request to serve with the National Guard or Reserve following three to six months of active duty.

The department also offers a general military science curriculum designed to conform to the academic pattern of the UCSB campus. For the student who does not wish to make the military a career, military science courses and the ROTC program will provide general career preparation. The department's lower-division curriculum provides valuable knowledge concerning the military history of the United States, the role of the military in American society, and the workings of the national defense establishment. Several lower-division courses can be used to satisfy the American History and Institutions requirement. The department's upper-division curriculum gives students both theoretical and practical leadership and management skills.

All department instructors can advise students on academic matters, the ROTC program, and financial aid. In addition, the ROTC enrollment counselor is available for discussion of special options such as the two-year program or the scholarship program. Several publications, including brochures and fact sheets, are available in the department office.

Military Science Courses

Leadership laboratory required for all advanced ROTC students to provide the opportunities for leadership development through practical exercises emphasizing the duties and responsibilities of junior leaders. Basic students who enroll in ROTC courses are not required to attend leadership laboratory.

LOWER DIVISION

1A. American Defense Policy
(2) HUNTLEY

Examination of American defense policy; the international environment and context of American foreign policy; evolution of U.S. strategy; arms control; limited war, insurgency, and international terrorism; as well as the theory of bureaucratic decision making with emphasis on contemporary issues. (W)

1B. U.S. Defense Establishment
(2) HUNTLEY

The study of the development, organization, and function of the defense establishment. Includes the role of the President, the National Security Council, Secretaries of State and Defense. Congress, and the intelligence community.

1C. The Military in a Democratic Society
(2) STAFF

A study of the varied missions of the U.S. Army, relating especially to military assistance and civic action programs, public works tasks, development of reserve forces, and training for unconventional warfare.

6. Basic Military Science Field Study
(2) COLE

Practicum in a field study environment. Student is given classroom instruction on leadership techniques, military courtesy, discipline, customs, traditions of the service, and career opportunities. Additionally, the students receive laboratory work in military skills such as map reading, rifle marksmanship, tactics, first aid, drill and ceremony, and physical training. (F)

7. American Military History to 1900
(2) HUNTLEY

Prerequisites: preference given to lower division students; consent of instructor.

Survey of American military history from colonial origins through the end of the 19th century. Emphasis on the wars of a young republic through the civil war and the frontier west. (F)

8. World War I and World War II
(2) MURPHY

Prerequisites: preference given to lower division students; consent of instructor.

Survey of American military history from 1900-1945. Emphasis on the personalities and major battles of World War I and World War II. The rise of the United States as a global superpower. (W)

11. Vietnam: A Military History
(2) MURPHY

A survey history of American involvement in Vietnam, to include the background of the Vietnamese conflict, the nature of U.S. involvement, strategies, significant events, and the tactics used by the participants. (F)

15. Land Navigation and Orienteering
(1) COLE

Basic map reading and compass skills. Principles of orienteering. Principles of basic field survival. Practical exercises in negotiating an orienteering course applied in the field. How to organize and administer a sport orienteering meet. (S)

20. Basic Mountaineering
(1) COLE

Preference given to lower-division students.

Basic rapelling and mountaineering skills with emphasis on equipment, techniques, knots and site selection. Students will apply these skills during a field trip. (F,W)

21. Basic Leadership
(2) COLE

Prerequisites: preference given to lower-division students; consent of instructor.

Orientation to effective leadership and leadership techniques. Management skills and human relations. Emphasis on military organizations and corporate structures. (S)

22. Basic Military Physical Conditioning
(1) STAFF

Basic physical conditioning using the United States Army physical training program. Emphasis on cardiovascular system and upper body strength. Focus towards Army Officer Training Corps cadets, although not limited to this group. (F)

23. Advanced Military Physical Conditioning
(1) STAFF

Advanced United States Army fitness techniques for physical conditioning Students learn how to conduct a physical conditioning program to ensure good health and fitness. Focus towards Army Officer Training Corps cadets, although not limited to this group. (W)

25. Terrorism and Modern Warfare
(2) MURPHY

Prerequisites: preference given to lower division students; consent of instructor.

Terrorism and contemporary global conflicts are examined in this survey of recent military history. Emphasis on aspects of modern warfare and the implications for the United States in the twenty-first century.

UPPER DIVISION

131. Principles of Leadership
(2) STAFF

Prerequisite: enrollment limited to advanced ROTC cadets or consent of instructor.

The study of the principles of leadership, reSPONSIBilities, and basic qualities of a leader, leadership traits, and special problems of military leadership. The study of theories of management and organizational behavior and of the decision-making process. Additionally, familiarization With communication systems and procedures used in the military team. Leadership laboratory required for all ROTC students. (F)

132. Advanced Tactical Theory
(2) STAFF

Prerequisite: enrollment limited to advanced ROTC cadets or consent of instructor.

The advanced study of tactical theory within the framework of the military team. Familiarization with small military unit organizations and operations. Fundamentals of offensive and defensive combat and their applications. Includes one field trip as course requirement. Leadership laboratory required for all ROTC students. (W)

133. Principles of Military Instruction
(2) STAFF

Prerequisite: enrollment limited to advanced ROTC cadets or consent of instructor.

Introduction of military teaching techniques and principles of planning instruction. Familiarization with methods of instruction and practical application by the student, who is required to prepare several presentations which include teaching a lesson, and use of closed-circuit television for self-evaluation. Leadership laboratory required for all ROTC students. (S)

141. Military Management
(2) COLE

Prerequisite: enrollment limited to advanced ROTC cadets or consent of instructor.

The study of the fundamentals of decision making, command and control problems, staff relationships, evaluation of situations and analysis of courses of action. Leadership laboratory required for all ROTC students. (F)

142. Fundamentals of Military Law
(2) COLE

Prerequisite: enrollment limited to advanced ROTC cadets or consent of instructor.

The study of military law and the fundamental concepts of military judicial procedures contained in the Uniform Code of Military Justice; rules of evidence, pretrial and appellant procedures. Leadership laboratory required for all ROTC students. (W)

143. The Profession of Arms: Ethics and Reality
(2) COLE

Prerequisite: enrollment limited to advanced ROTC cadets or consent of instructor.

An analysis of the profession of arms, stressing the necessity for ethical and unimpeachable conduct: to include logistical problems and systems, subordinate-superior relationships, collective and individual training, lateral communication with peers, the role of warrant and non-commissioned officers, and customs and traditions of the U.S. Army. Leadership laboratory required for all ROTC students. (S)

190. Advanced Military Science Field Study
(4) COLE

Prerequisite: consent of instructor.

Each student is placed in problem-solving and decision-making situations and required to respond with actions based upon knowledge gained in earlier courses in military science. (SS/F)

199. Independent Studies in Military Science
(1-5) COLE

Prerequisites: Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in military science. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Open only to ROTC advanced course students approved by the chair. Independent studies with the professor. To permit study on a subject agreed by the student and professor, not covered by regular course offerings. (F,W,S)

Music

Department of Music,
Division of Humanities and Fine Arts,
Music 1315;
Telephone (805) 893-4603
Department Chair: Michael Ingham

Faculty

Michael Beckerman, Ph.D., Columbia University, Assistant Professor (19th-century music, Eastern European MUSIC)

Ronald Copes, M.M., University of Michigan, Professor (violin, chamber music)

Emma Lou Diemer, Ph.D., Eastman School of Music, Professor Emerita

Maurice Faulkner, Ph.D., Stanford University, Professor Emeritus

Joel S. Feigin, D.M.A., Juilliard School of Music, Assistant Professor (composition)

Jill Felber, M.M., Bowling Green University, Assistant Professor (flute)

Robert N. Freeman, Ph.D., UC Los Angeles, Associate Professor (classical music)

John Gillespie, Ph.D., University of Southern California, Professor Emeritus

Gregory Goodall, M.F.A., UC Los Angeles, Lecturer *(percussion)*

Patricia Hall, *Ph.D.*, Yale University, Assistant Professor *(theory, 20th-century music)*

Dolores M. Hsu, Ph.D., University of Southern California, Professor *(19th-century music, music criticism, ethnomusicology)*

Michael Ingham, M.A., Denver University, Professor *(voice, opera)*

William Kraft, M.A., Columbia University, Corwin Professor of Music Composition *(composition)*

Stefan Krayk, Licence de Concerts, Ecole Normale de Musique, Professor Emeritus

JoAnn Kuchera-Morin, Ph.D., University of Rochester, Eastman School of Music, Associate Professor *(electronic and computer-generated music)*

Joseph Lam, Ph.D., Harvard University, Assistant Professor *(ethnomusicology)*

Elizabeth Mannion, B.A., University of Washington, Professor *(voice)*

Lorraine Manz, M.M., University of Michigan, Lecturer *(voice)*

Scott Marcus, Ph.D., UC Los Angeles, Lecturer *(ethnomusicology)*

Lester P. Monts, Ph.D., University of Minnesota, Professor *(ethnomusicology, chamber music)*

Betty Oberacker, D.M.A., Ohio State University, Professor *(piano, chamber music)*

Heiichiro Ohyama, A.G.S.M., Guildhall School of Music, London, Professor *(viola, violin, chamber music)*

Alejandro Planchart, Ph.D., Harvard University, Professor *(medieval and renaissance music, Collegium Musicum)*

William Prizer, Ph.D., University of North Carolina, Professor *(renaissance and early baroque music, Collegium Musicum)*

Thomas Russell, M.M., University of Southern California, Lecturer *(piano accompanying)*

Geoffrey B. Rutkowski, M.M., University of Southern California, Professor *(cello, chamber music)*

Janice Sharon, M.A., UC Santa Barbara, Lecturer *(piano)*

Earl L. Stewart, D.M.A., Juilliard School of Music, Assistant Professor *(composition)*

Amy Stillman, Ph.D., Harvard University, Assistant Professor *(ethnomusicology)*

Pieter van den Toorn, Ph.D., UC Berkeley, Assistant Professor *(theory, 20th-century music)*

James Welch, D.M.A., Stanford University, Lecturer *(organ)*

Dorothy Westra, M.S.M., Union Theological Seminary, Professor Emerita

Clayton Wilson, M.M., Northwestern University, Professor Emeritus

Peter Yazbeck, Artist's Diploma, University of Toronto, Senior Lecturer *(piano)*

Carl Zytowski, M.A., University of Washington, Professor *(voice, opera, chorus, choral conducting)*

The Department of Music curriculum includes undergraduate courses which lead to completion of either of two degrees: (1) the Bachelor of Arts in music, with a special concentration offered in ethnomusicology, or (2) the Bachelor of Music, a professional degree in performance. The undergraduate major programs are designed to serve as background for professional careers in music, as preparation for graduate studies, or as an area of concentration for a liberal arts education.

The graduate program includes courses leading to the M.A. degree in musicology, ethnomusicology, composition, or theory; the M.M. degree and the D.M.A. degree in music performance, and the Ph.D. degree in musicology, composition, ethno-musicology, or theory.

Performance ensembles are available for all qualified students, and a wide range of undergraduate courses is offered for nonmajors. Advising for majors is handled by the departmental undergraduate adviser. Graduate students are advised by faculty members in their area of emphasis. Various cash prizes and awards are offered each year to outstanding students enrolled in performance, musicology, theory, composition, or ethnomusicology. Further information concerning these prizes and awards is available from the Department of Music office.

After completing specific prerequisites, students with a bachelor's degree in music are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Note: Because the requirements for the B.M. and the B.A. in music have changed significantly in the past two years, incoming transfer students and returning students must contact the Department of Music for information about the old undergraduate curriculum. The following may not accurately reflect programs available to all incoming undergraduate students.

Requirements for entering music students. All new music majors, both freshmen and transfer students from other institutions or departments, are required to take a placement test in music theory and placement auditions in performance and class piano. These are given only during registration days, at the beginning of each quarter, and should be taken prior to enrollment in music major classes. An initial consultation with the departmental undergraduate adviser is essential before embarking on any of the following courses of study. The department also requires that each student who has declared music as a major meet at least once each year with the undergraduate adviser to help in the planning of course selection and to assure that adequate progress is being made toward the degree.

Students must achieve a grade-point average of at least 2.0 in all music courses in order to be accepted into the upper-division major, and majors must also achieve a grade-point average of at least 2.0 in order to qualify for graduation in the major. All undergraduate students, whether majors or nonmajors, who are enrolled in individual applied instruction in an orchestral instrument, are required to elect Music 42/142 if their participation is needed. All undergraduates enrolled in applied vocal instruction are required to elect Music A36/A136, A37/A137, or A48/A148. Students transferring from other institutions must complete at least three quarters within the department.

Bachelor of Arts—Music

Students majoring in music must meet the General Education requirements for the B.A. degree set by the College of Letters and Science.

Preparation for the major. Music 4A-B-C-D-E-F; 5A-B-C-D-E-F; 6 units of 20-33; 6 units from A36, A37, A42, A47, or A48; successful completion of the sophomore paper, audition, or composition; fulfillment of the piano proficiency requirement, which may be met either by completion of Music 31-32 or by audition; completion of the sixth quarter or its equivalent in French, German, or Italian.

Upper-division major. Forty-eight upper-division units in music, including Music 102 or 103; 112A-B-C-D-E-F; 160A-B-C; 174A or 174B or 174C or 176; one course selected from 161-187; three courses from 120-133; three additional courses from 108, 109, or 120-133; six courses from A136, A137, A142, A147, or A148; successful completion of the senior project.

Ethnomusicology Concentration

Preparation for the major. Music 4A-B-C-D-E-F; Music 5A-B-C-D-E-F; six courses from Music 20-33; Music 17; six courses from Music A36, A37, A42, A47, A48, A70AA-ZZ; successful completion of the sophomore project; fulfillment of the piano requirement, which may be met either by completion of Music 31-32 or by audition; completion of the sixth quarter or the equivalent thereof in French, German, Italian, or another language by petition.

Upper-division major. Forty-eight upper-division units in music, including Music 102 or 103; three courses from 112A-B-C-D-E-F; 160A-B; 174A-B-C; 176; three ethnomusicology courses from 104, 105, 114, 116A, 132A, 166A, 168A, 170A, 172, 190A, 193A-J, 194; three courses from 120-133; six courses from Music A105AA-ZZ, A136, A137, A142, A148; successful completion of the senior project.

Bachelor of Music

The Bachelor of Music degree is open by audition to specially qualified students in performance and composition. Students must meet the General Education requirements for the B.M. degree set by the College of Letters and Science. Completion of one of the following concentrations will not be formally acknowledged on the student's official transcript or diploma. For all concentrations, the new General Education Area B (foreign language) requirement should be met in French, German, or Italian (or Spanish for students in the guitar performance concentration), and should be completed by the end of the sophomore year.

Composition Concentration

Preparation for the major. Twelve units of Music 8; 4A-B-C-D-E-F; 5A-B-C-D-E-F; 17; 31, 32, or 33; six courses from A36-A49; successful completion of sophomore composition; Speech and Hearing Sciences 121.

Upper-division major. Eighty-three upper-division units in music, including 18 units of Music 108-109; 101; 102 or 103; 106, 107, 112A-B-C-D-E-F, 160A-B; one course from 160C-187; 184, 109LA and 109IA; 178B; 120A-B-C; three courses from 122-133; five courses from A134-A149; successful completion of the senior composition.

Guitar Performance Concentration

Preparation for the major. Eighteen units of Music 26; 4A-B-C-D-E-F; 5A-B-C-D-E-F; 17; 31, 32, or 33; 3 units of A39; 3 units of A36, A37, A42, or A48; three additional courses from A36-A38 or A40-A49; successful completion of the freshman jury and the sophomore audition.

Upper-division major. Seventy-one upper-division units in music, including 24 units of Music 126; 112A-B-C-D-E-F; 160A-B; one course from 161-187; 120A; 155; 178A or 178B; 3 units of A139; 4 units of A144; three courses from A136-A138 or A140-A149; 3 units of upper-division music electives; successful presentation of junior and senior recitals.

Harpsichord or Organ Performance Concentration

Preparation for the major. Eighteen units of Music 21 or 30; 4A-B-C-D-E-F; 5A-B-C-D-E-F; 17; three courses from 21 or 33 (for organists), or 30 or 33 (for harpsichordists); 35A-B-C; 50A-B; three courses from A36, A37, A41, A42, A47, or A48; successful completion of the freshman jury and the sophomore audition.

Upper-division major. Eighty-one upper-division units in music, including 24 units of Music 130 or 131; 112A-B-C-D-E-F; 160A-B; 161; 178A; 120A; three courses from A136-A149; three additional courses from A144; for organists: 163 and one other course from 162-187 (will normally be met by the election of 181); for harpsichordists: 6 additional units of A144; 3 units of upper-division music electives; successful presentation of junior and senior recitals.

Orchestral Instruments Performance Concentration

Preparation for the major. Eighteen units of Music 19, 26, 27, 28, or 29; 4A-B-C-D-E-F; 5A-B-C-D-E-F; 17; 31-32 or 33; A42 or A47; three courses from A40, A43, A44, A45, A46, or A49; successful completion of the freshman jury and the sophomore audition.

Upper-division major. Seventy-one upper-division units in music, including 24 units of Music 123, 126, 127, 128, or 129; 112A-B-C-D-E-F; 160A-B; one course from 161-187 (will normally be met by the election of 178A or 178B); 120A; 142 or 147; six courses from A140, A143, A144, A145, A146, or A149; 6 units of upper-division music electives; successful completion of junior and senior recitals. Students whose principal applied instruction is in violin are required to complete at least one quarter (1 unit) of viola.

Piano Performance or Piano Accompanying Concentration

Preparation for the major. Eighteen units of Music 33; 4A-B-C-D-E-F; 5A-B-C-D-E-F; 17, three courses from 21, 30, or A41 (3 units); 35A-B-C; three courses from A36, A37, A41, A42, A47, or A48; successful completion of the freshman jury and the sophomore audition.

Upper-division major. Seventy-five upper-division units in music, including 24 units of Music 133; 112A-B-C-D-E-F; 160A-B, 161; one course from 162-187 (normally met by the election of 178A or 178B); 120A; three courses from A136-A149; 6 units of A144 (piano performance concentration only); three additional courses from A144; 3 units of upper-division music electives; successful completion of junior and senior recitals. For those students emphasizing piano accompanying, add 6 units from Music 135 and three courses from Music 158 and Music 165 for a total of 72 upper-division units.

Voice Performance Concentration

Preparation for the major. Eighteen units of Music 25; 4A-B-C-D-E-F; 5A-B-C-D-E-F; 17; 31, 32, or 33; 6 units of A36, A37, or A48; successful completion of the freshman jury and the sophomore audition; Italian 1-3; and German or French 1-3.

Upper-division major. Seventy upper-division units in music, including 24 units of Music 125; 112A-B-C-D-E-F; two courses from 160A, 160B, 178A, or 178B; 4 units of 150; 8 units of 159; 6 units of 136, 137, or 148; 158A-B-C-D; successful completion of junior and senior recitals.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university degree requirements found in the chapter "Graduate Education at UCSB." Four M.A. emphases are available in music, each requiring a thesis or composition. The M.M. in musical performance requires a recital and a supporting document.

Master of Arts—Music—Emphases in Musicology, Ethnomusicology, Composition, or Theory

Admission

Applicants will normally be expected to possess a B.A. degree in music from UCSB or a degree based on equivalent training.

Degree Requirements

A residency of six quarters, including thesis or composition, is generally expected. Enrollment in at least one performance ensemble (Music A221, A236-A249) and one academic music course (Music 200A-B, 201-202, 216, 217, 221, 227, 250-252, 260-294) is required for each quarter in residence. Students in composition may omit an academic course during one quarter for concert preparation. All portions of a guidance examination, taken upon entrance, must be passed or satisfied by taking approved coursework before advancement to candidacy. A satisfactory reading knowledge of French, German, or Italian must be demonstrated by examination to be passed by the end of the first year of residency. In certain cases, the department may accept substitution of another foreign language.

Musicology. Music 200A-B; one course from 201A or B or C; three seminars, each from a different historical period (261A-269B); additional units selected with the guidance of a faculty adviser; a thesis.

Ethnomusicology. Music 200A, 200C, 224, 274A-B-C, 276; Music 222 each quarter of residency; additional units selected with the guidance of a faculty adviser; a thesis.

Composition. Music 200A; 207; 208A-F; 250A or B or 251A or B or 252A or B or C; 257; 269A or B; one course from 261A-268B or from 279, 282-284, 284E, 287-288, 291-292; additional units selected with the guidance of a faculty adviser; a composition of substantial length; a concert (or the equivalent) of the student's compositions in which the student participates as performer or conductor.

Theory. Music 200A and D; 250A or B; 252A-B; one course from 279, 282-4, 292-2; additional units selected with the guidance of a faculty adviser; a thesis.

Master of Music—Emphases in Strings, Voice, Keyboard, Conducting, and Orchestral Winds

The Master of Music/Doctor of Musical Arts program at UCSB is designed to provide graduate and professional training in the intellectual, practical, and professional skills increasingly demanded of performers in this century. Enrollment in at least one performance ensemble (Music A221, A234, A236-A249) and one academic music course (Music 200A-B-C, 201-202, 223-227, 216, 217, 221, 250-252, 260-294) is required for each quarter in residence.

The M.M. degree provides preparation for professional performers in the areas of string instruments, orchestral winds, keyboard, voice, and conducting. The degree will be awarded to candidates who demonstrate technical proficiency and advanced competence as performers, a substantial knowledge of the solo and chamber music literature in the field of their specialization, and a ready command of those aspects of music theory and music history that support and illuminate informed performance.

Admission

Applicants must hold a B.M. or a B.A. in music performance. An audition is required. Applicants will provide a repertory list and programs of concerts performed, GRE scores, and letters of recommendation.

Degree Requirements

During the first quarter of residency, all M.M. students will take a series of placement examinations in the fields of music theory and music history, and demonstrate a ready command of aural skills. Any deficiencies in these fields will normally be remedied before the end of the first year of residency.

The M.M. requires six quarters of residency, 72 units beyond the baccalaureate, including (1) 24 units of Music 220 (applied); (2) 12 units of Music A244 (chamber music); (3) 4 units of Music 200A (bibliography); (4) 4 units of Music 278A or 278B (performance practice); (5) 4 units of Music 296A, 296B, or 296C (performance literature); (6)12 units from Music 201-202, 223-227, 250-252, 260-294; (7) 8 units from Music A221, A236-A249 (students studying orchestral instruments will be assigned specific ensemble requirements by their major professor); (8) 4 units from Music 295A-B; two major performances, at least one of which will be a graduate recital. One performance is required in the first year. Candidates must demonstrate, by examination, reading knowledge of one foreign language approved by the department.

Doctor of Philosophy—Music—Emphases in Musicology, Ethnomusicology, Composition, and Theory

Admission

In addition to fulfilling the general requirements for admission to graduate status, the department requires completion of an M.A. degree in music from UCSB or a degree based on equivalent training. Students with an M.A. will normally take two additional years of graduate coursework for the Ph.D.

Degree Requirements

Enrollment in at least one performance ensemble (Music A221, A236-A249) and one academic music course (Music 200A-B, 201-202, 223-236, 250-251, 260-294) is required for each quarter in residence. An ensemble may be omitted during one quarter for preparation of the doctoral qualifying examinations. All portions of a guidance examination, taken upon entrance, must be passed or satisfied by taking approved coursework before advancement to candidacy. Students in musicology and theory and composition following Plan A must demonstrate by examination a reading knowledge of French and German and of such other languages as the field of specialization may require. Normally, the Ph.D. candidate will pass a language examination prior to acceptance. Students in composition following Plan B may substitute a computer music language for a second foreign language. Ph.D. candidates in musicology and theory are required to take three courses in an approved field or fields outside of music. Ph.D. candidates in composition following Plan A are required to take two courses outside music approved by the graduate adviser in composition; Plan B outside courses may be taken as electives. Those qualified in performance may earn 3 graduate units by means of a lecture-recital. Before being admitted to candidacy, students must pass a series of written and oral qualifying examinations in music history, ethnomusicology, theory, bibliography, and literature, covering the whole range of music history.

Musicology. Music 200A-B; two of 201A-B-C (those specializing in music prior to 1600 must take all three); 202; enrollment in one of the seminars (261A-269B) during each quarter of residency (normally a student will take a seminar in each historical period); a dissertation; defense of the dissertation.

Ethnomusicology. Music 200A, 200C, 226, 227A-B; Music 222 during each quarter of residency; two courses in the ethnography of music; additional units selected with the guidance of a faculty adviser; a dissertation.

Composition, Plan A. Music 200A; 207; 208G-L; at least five quarters from 250 and 251; 209I, 209L or 209N; 257; specified courses in music history including seminars in historical periods that have not been taken previously; one concert or lecture/recital in which the student participates as performer, conductor, or lecturer; an analytical document (topic to be chosen in consultation with the adviser); a portfolio of compositions, including at least one of substantial length.

Composition, Plan B. Music 200A; 207; 208G-L; at least three quarters from 250, 251, and 252; 209L; 209I or 209N; 257; specified courses in music history; two concerts and/or lecture/recitals; and portfolio.

Theory. Music 200A and D; 250A-B; 251A-B-C; 252A-B; one course from 261-269; two courses from 279, 282-4, 291-2; a dissertation; defense of the dissertation.

Doctor of Musical Arts—Emphases in Strings, Voice, Keyboard, and Conducting

The D.M.A. provides a thorough preparation for the professional performer and the artist-teacher in the areas of string instruments, keyboard, voice, and conducting. Candidates for the degree will demonstrate the following: an exceptional degree of technical proficiency and thoroughly professional competence as performers; a thorough and deep command of the solo and chamber music literature in their specialties; a thorough knowledge of the relevant literature in music theory and music history and the kind of thoughtful musicianship that results from disciplined and careful study of music theory, music history, and musical styles.

Admission

Applicants must have the M.M. degree or its equivalent. An audition is required, comparable in scope to a full recital demonstrating the applicant's command of several musical styles. Applicants will submit a repertory list and programs and reviews of concerts performed, GRE scores, and letters of recommendation.

Degree Requirements

All D.M.A. students will take a series of examinations in music theory and music history during their first quarter of residency, and must demonstrate a command of aural skills comparable to that of a graduate of the UCSB M.M. program. Any deficiencies will be remedied before the end of the first year.

Six quarters' residency beyond the M.M. is required. Students are expected to participate in department coursework and activities with the following frequency: performance tutorials, six quarters; chamber music tutorials, six quarters; studies or seminars in music history, theory, or bibliography, four quarters; seminars in performance practice, two quarters; seminars in performance literature, two quarters; D.M.A. seminar, historical/theoretical aspects of music, two quarters; major performances, two quarters.

Before admission to candidacy for the D.M.A., students must achieve the following: a reading knowledge, demonstrated by examination, of two foreign languages approved by the department; one full-length recital and another major recital, a chamber music recital, a major opera or oratorio role, or another full-length recital; passage of written and oral general examinations in music history, theory, bibliography, and literature, with emphasis on the core of the student's specialization. Upon completion of these requirements, the student advances to candidacy.

After advancement, the candidate will present two additional full-length recitals and another major performance. Candidates will also submit a written document as evidence of ability to conduct scholarly research. This document may provide research support of one of the candidate's recitals, or it may focus on other aspects of performance practice, literature, or theory as approved by the candidate's doctoral committee. More limited in scope than a conventional Ph.D. dissertation, the D.M.A. document must nevertheless be complete in itself and demonstrate scholarly competence at the doctoral level. Acceptance of the research document by the student's committee is the final requirement of the D.M.A.

Students will normally be expected to complete a D.M.A. within three years after entry with the M.M. degree.

Music Courses

LOWER DIVISION

1. Freshman Seminar

(1) STAFF

Prerequisite: open to majors only.

Will center on the standards of a professional musical life, both scholarly and performing. Assigned readings, attendance at assigned concerts with reports required, and a research paper. As appropriate to the emphasis, a solo performance or performance of an original work with a supporting oral report, or an oral research report on an assigned topic.

4A-B-C. Musicianship

(1-1-1) STAFF

Prerequisite: Placement exam.

A practical course in sight singing, aural analysis, and rhythmic studies, which must be taken concurrently with Music 5A-B-C. (A:F; B:W; C:S)

4D-E-F. Musicianship

(1-1-1) STAFF

Prerequisites: Music 4A-B-C. To be taken concurrently with Music 5D-E-F.

Continued studies in sight singing, aural analysis and rythmic studies. (D:F; E:W; F:S)

5A-B-C. Music Theory

(3-3-3) HALL, VAN DEN TOORN

Prerequisite: Placement Exam. To be taken concurrently with Music 4A-B-C.

Music theory, including tonal and chromatic harmony, and an introduction to analysis. (A:F; B:W; C:S)

5D. Music Theory

(3) HALL, VAN DEN TOORN

Prerequisites: Music 5A-B-C. To be taken concurrently with Music 4D.

Further studies in harmony and counterpoint. (F)

5E. Music Theory

(3) HALL, VAN DEN TOORN

Prerequisites: Music 5D. To be taken concurrently with Music 4E.

Further studies in harmony and counterpoint; introduction to twentieth-century techniques. (W)

5F. Music Theory
(3) HALL, VAN DEN TOORN

Prerequisites: Music 5A-5E.

Sixth quarter of music theory sequence; form and analysis. An introduction to formal structures in music. (S)

6. Jazz Harmony
(3) STAFF

Prerequisite: Music 5D or consent of instructor.

Will introduce students to the theoretical and applied aspects of jazz harmony with emphasis on altered chords, harmonic progressions, and lead sheets.

8. Class Composition
(2-12) STAFF

Prerequisite: consent of instructor. Primarily for the major.

Assignments in basics of music writing. For a selected number of students enrolled in Music 5A-F. (F,W,S)

9. Keyboard Harmony
(3) STAFF

Prerequisites: basic piano skills, Music 5A-C or equivalent.

This course enriches theoretical skill through their expression at the keyboard. Exercises include chord progressions, transposition, modulation, realization of figured/unfigured basses, melodic harmonization, and score reading. The course emphasizes connections between these activities and music from the tonal repertoire.

11. Fundamentals of Music
(4) STAFF

Prerequisite: for the nonmajor.

The study of notes, scales, triads, inversions, rhythm, harmony, and musical terminology. Laboratory activities include keyboard orientation, sight-singing, and ear training. (F,W,S)

15. Music Appreciation
(4) STAFF

Prerequisite: for the nonmajor.

A selective survey of music of western civilization, evolution of forms, styles, media. Designed to enable the student to listen with understanding. (F,W,S)

16. Masterworks of Music
(4) RUTKOWSKI

Prerequisite: Music 15 or consent of instructor. For the nonmajor.

A study of great works of music, the latter being chosen to represent various media, textures, and historical styles.

17. World Music
(4) MARCUS

No previous training in music required.

An introductory course surveying the unity and diversity of folk, traditional, and classical music of the non-Western world. Emphasis given to dance, theatre, musical instruments, and the role of music in society. (F,W,S)

19. Harp
(1-3) STAFF

Prerequisite: Music 31A or consent of instructor. May be repeated for credit up to 18 units.

Beginning study in technique and literature of the harp. (F,W,S)

20A-B-C. Elementary Voice
(1-1-1) STAFF

Prerequisite: Music 11 or consent of instructor. (Placement by audition.)

Primarily for the instrumental music major and the music minor. (F,W,S)

21. Intermediate Harpsichord
(1-3) WELCH, SHARON

Prerequisite: consent of instructor. May be repeated for credit up to 18 units. (F,W,S)

24. Carillon
(1-3) WELCH

Prerequisites: Music 33 or equivalent and consent of instructor. May be repeated for credit up to 18 units.

An introduction to basic carillon techniques and performance of literature; a study of scoring, transcription, and arrangement for the carillon and the history and development of its use.

25. Intermediate Voice
(1-3) MANNION, INGHAM, MANZ

Prerequisite: for the vocal major. May be repeated for credit up to 18 units. (F,W,S)

26. Intermediate Strings.
(1-3) STAFF

May be repeated for credit up to 18 units.

Lec. 1. Violin: Copes, Ohyama
Lec. 2. Viola: Ohyama
Lec. 3. Cello: Rutkowski
Lec. 4. Double bass: Staff
Lec. 5. Guitar: Staff
(F,W,S)

27. Intermediate Woodwinds
(1-3) STAFF

May be repeated for credit up to 18 units.

Lec. 1. Oboe
Lec. 2. Flute: Felber
Lec. 3. Clarinet
Lec. 4. Bassoon
(F,W,S)

28. Intermediate Brass
(1-3) STAFF

May be repeated for credit up to 18 units.

Lec. 1. Trumpet
Lec. 2. French horn
Lec. 3. Trombone
(F,W,S)

29. Intermediate Percussion
(1-3) GOODALL

May be repeated for credit up to 18 units. (F,W,S)

30. Intermediate Organ
(1-3) WELCH

Prerequisites: Music 31A-B or equivalent; consent of instructor. May be repeated for credit up to 18 units. (F,W,S)

31A-B-C. Class Piano
(1-1-1) SHARON

Prerequisite: placement by audition. Primarily for music majors. (F,W,S)

32A-B-C-D-E-F. Class Piano
(1-1-1-1-1-1) SHARON

Prerequisite: placement by audition. Primarily for the music major.

Intermediate class piano instruction. Includes scales, sight-reading procedures, transposition, harmonization at the keyboard, and appropriate piano literature. (A-B-C: F,W,S; D: F; E: W; F: S)

32G-H-I. Class Piano
(1-1-1) SHARON

Prerequisite: placement by audition; primarily for the music major.

Intermediate class piano instruction, with emphasis on piano literature. (G: F; H: W; I: S)

33. Intermediate Piano
(1-3) OBERACKER, YAZBECK

Prerequisite: for piano majors only. May be repeated for credit up to 18 units. (F,W,S)

35A-B-C-D-E-F. Piano Accompanying
(1-1-1) RUSSELL

Prerequisite: piano majors only or consent of instructor.

An introduction to the study of accompaniment repertoire and performance (art song, instrumental literature, orchestral transcriptions, sight-reading). (A:F;B:W;C:S)

50A-B. Continuo Playing and Baroque Accompaniment
(2-2) STAFF

Prerequisites: Music 5A-D. Audition at the keyboard. Majors only.

A. Fundamentals of basso continuo, reading of figured bass at sight, basic harmonic patterns of the seventeenth and eighteenth centuries.

B. Practical instruction in accompanying instruments and singers in music of the seventeenth and eighteenth centuries. Conventions of keyboard performance.

98. Readings in Music
(1-3) STAFF

Prerequisites: minimum 3.0 cumulative grade-point average and consent of instructor. May be repeated for credit up to 6 units.

Critical review and discussion of related topics in musicology, ethnomusicology, composition, theory, or performance. (F,W,S)

99. Introduction to Musical Research
(1-3) STAFF

Prerequisites: minimum 3.0 cumulative grade-point average and consent of instructor. May be repeated for credit up to 6 units.

Independent research under the guidance of a faculty member in the department. Course offers exceptional students the opportunity to undertake independent research of work in a research group in topics in musicology, ethnomusicology, composition, theory, or performance. (F,W,S)

UPPER DIVISION

101. Twentieth-Century Techniques
(3) STAFF

Prerequisite: Music 5E or equivalent.

A study of contemporary techniques through both written work and analysis. (W)

102. Sixteenth-Century Counterpoint
(3) STAFF

Prerequisite: Music 5E or equivalent.

A study of contrapuntal practices of the sixteenth century through analysis and compositional exercises. (S)

103. Canon and Fugue
(3) STAFF

Prerequisite: Music 5E or equivalent.

A study of contrapuntal practices of the eighteenth century through analysis and compositional exercises. (W)

104. Musical Instruments of the World
(4) HSU

Prerequisite: Music 17.

A systematic study of musical instruments in world cultures, involving classification, distribution, acoustical phenomena, and physical typologies. Emphasis on cross-cultural, comparative analysis of solo and ensemble groupings, and the role of musical instruments in the study of acculturation, historical diffusion, and aesthetics.(FWS)

105. Field and Laboratory Methods in Ethnomusicology
(4) STAFF

Prerequisites: Music 17 and 176.

The development and execution of field research designs. Practical field experience using various techniques of data collection and management, including music recording, photography, filming, questionnaires, and interviewing. The use and interpretation of standard and innovative laboratory methods for processing data, including computer analysis.

106. Orchestration
(3) STAFF

Prerequisites: Music 5E or equivalent.

The range, tonal quality, transposition, and technical possibilities of individual instruments, and their use together in the orchestra. (F)

106D. Timbre/Psychoacoustics
(3) STAFF

Prerequisite: music majors.

Course explores use of timbre in twentieth-century music. Topics include: timbre and pitch; texture; masking; klangfarbenmelodie. Relevance of recent research in psychophysics and cognitive psychology to timbre, texture, and klangfarbenmelodie will be explained.

107. Advanced Orchestration
(3) STAFF

Prerequisites: Music 106 or equivalent.

A study of advanced orchestration through written work and analysis. Includes both a historical survey of the development of the orchestra from the seventeenth century to the present and a review of various styles of orchestration in the twentieth century.

108A-B-C. Composition
(1-3,1-3,1-3) FEIGIN
Prerequisites: Music 5, or equivalent with consent of instructor. Primarily for the composition major.

Assignments using small forms and incorporating contemporary techniques. (F,W,S)

109A-B-C. Advanced Composition
(1-3,1-3,1-3) FEIGIN
Prerequisites: Music 108A-B-C, or equivalent with consent of instructor. For the composition major.

Assignments using larger forms and incorporating contemporary techniques. (F,W,S)

109I. Introduction to C Music
(4) KUCHERA-MORIN
Prerequisites: music majors or nonmajors with consent of the instructor. May be repeated for credit up to 12 units.

Course is introduction to use of computers for musical composition. Topics include: Vi text editor; introduction to programming in C; music synthesis using C music; CARL sound file system. Previous experience with computer music desirable but not necessary.

109IA. Direct Digital Synthesis, Processing and Composition
(4) KUCHERA-MORIN
Prerequisites: upper-division standing; consent of instructor; music majors must have taken Music 5E or equivalent. A maximum of 12 units total allowed for Music 109I, 109IA, 109IB, and 109IC.

First quarter of general purpose computing for computer music applications. Topics include: introduction to the UNIX operating system and the vi editor, music synthesis using C music program and score input programs.

109IB. Direct Digital Synthesis, Processing and Composition
(4) KUCHERA-MORIN
Prerequisites: Music 109IA. A maximum of 12 units total allowed for Music 109I, 109IA, 109IB, and 109IC.

Second quarter of a three-quarter series course will concentrate on computer instrument design using C-based computer music software and exploring sythesis applications of frequency modulation, amplitude modulation, additive/subtractive synthesis etc., computer processing of sound and computer music composition.

109IC. Direct Digital Synthesis, Processing and Composition
(4) KUCHERA-MORIN
Prerequisites: Music 109IA and 109IB. A maximum of 12 units total allowed for Music 109I, 109IA, 109IB, and 109IC.

Third quarter of a three-quarter series course will concentrate on advanced c-based computer programs for digital signal processing, advanced instrument design. Most of the emphasis in the quarter is music composition.

109L. Electronic Music Techniques and Composition
(3) KUCHERA-MORIN
Prerequisites: Music 5E and consent of instructor. May be repeated for credit up to 12 units.

An introduction to laboratory techniques. Projects in electronic music composition.

109LA. Real-Time Digital Synthesis, Processing and Composition
(2) KUCHERA-MORIN
Prerequisites: upper-division standing; consent of instructor; music majors must have taken Music 5E or equivalent. A maximum of 12 units total allowed for Music 109L, 109LA, 109LB, and 109LC.

First quarter of a 3-quarter series course in real-time digital synthesis and composition will concentrate on multi-track recording, mixing, digital signal processing using micro-computers and special purpose dsp equipment for music composition.

109LB. Real-Time Digital Synthesis, Processing and Composition
(2) KUCHERA-MORIN
Prerequisites: Music 109LA. A maximum of 12 units total allowed for Music 109L, 109LA, 109LB, and 109LC.

Second quarter of a 3-quarter series course will concentrate on digital synthesis (primarily frequency modulation, simple and complex; but also amplitude modulation and additive synthesis) using micro-computers, digital synthesizers and processing equipment for music composition.

109LC Real-Time Digital Synthesis, Processing and Composition
(2) KUCHERA-MORIN
Prerequisites: Music 109LA and 109LB. A maximum of 12 units total allowed for Music 109L, 109LA, 109LB, and 109LC.

Third quarter of a 3-quarter series course will concentrate on real time computer music composition with micro-computers and digital synthesis/processing equipment.

109N. Special Topics in Computer Music and Digital Signal Processing.
(3) STAFF
Prerequisites: Music 109LA-B-C, or 109IA-B-C, and/or consent of the instructor.

Advanced topics in computer music composition, synthesis and digital signal processing.

109T. Music and Media
(2-4) STAFF
Prerequisite: open to music majors only.

Creative projects in synthesized and acoustic sound. Synchronization with film using SMPTE time code. Interdisciplinary collaborations. Previous experience with computer/synthesizer/film desirable.

111. Sound Recording for Musicians
(2) STAFF
Prerequisite: consent of instructor.

A nonmathematical lecture/demonstration, providing basic understanding of the processes of sound recording, musical instrument amplification, stage and performance sound systems, as well as scoring music for multitrack recording techniques.

112A. History of Music: The Middle Ages
(3) PLANCHART
Prerequisites: Music 5C or equivalent. Consent of instructor.

History of music in western civilization from antiquity to 1400.

112B. History of Music: The Renaissance
(3) PRIZER
Prerequisites: Music 5C or equivalent. Consent of instructor.

History of music in western civilization from 1400 to 1600. (F)

112C. History of Music: The Baroque
(3) FREEMAN, PRIZER
Prerequisites: Music 5C or equivalent, Consent of instructor.

History of music in western civilization from 1600 to 1750.

112D. History of Music: The Classic Era
(3) FREEMAN, PLANCHART
Prerequisites: Music 5C or equivalent. Consent of instructor.

History of music in western civilization from 1725 to 1825. (W)

112E. History of Music: The Romantic Era
(3) HSU, PRIZER
Prerequisites: Music 5C or equivalent. Consent of instructor.

History of music in western civilization from 1790 to 1918.

112F. History of Music: The Twentieth Century
(3) PRIZER
Prerequisites: Music 5C or equivalent. Consent of instructor.

History of music in western civilization from 1870 to the present. (S)

112L. Music Library Research Techniques
(1) STAFF
Prerequisite: open to music majors only unless space available.

An introduction to the Music Library—its special tools and files; its major types of reference sources; its special services and collections. Intended to help students develop efficient music research techniques applicable to term papers, theses, etc.

113. Introduction to Piano Technology
(2) STAFF
Prerequisite: piano performance majors or consent of instructor.

This course is designed to develop a professional relationship between the pianist and the technician. Topics include: a historical survey of the development of the piano, performance practice, familiarization with the mechanical parts of the piano, and proper care of the instrument.

114. Music and Popular Culture in Twentieth-Century America
(4) STEWART
Prerequisite: for the nonmajor; six terms of college work.

A survey of the relationships between music and popular culture in twentieth-century America. Music to be discussed will include blues, jazz, and rock, as well as classical music. Emphasis will be on cultural, rather than technical aspects of music. (F,W,S)

115. Symphonic Music
(4) RUTKOWSKI
Prerequisite: Music 15 or consent of instructor. For the nonmajor.

A study of selected symphonic works. (S)

115B. History and Literature of Chamber Music
(4) PRIZER
Prerequisite: Music 15 or consent of instructor.

A survey of the masterworks of chamber music from the Baroque through the twentieth century. Includes works by Bach, Haydn, Schubert, Schumann, and Brahms.

116A. Hawaiian Music and the Hawaiian-American Experience
(4) STILLMAN
For nonmajors only.

Examination of indigenous and westernized streams within the Hawaiian music tradition. Consideration of the formation and persistence of externally-imposed stereotypes, and the articulation of the Hawaiian musical experience from an internal perspective.

117. History and Literature of Opera
(4) ZYTOWSKI
Prerequisites: Music 15 or consent of instructor. For the nonmajor.

A systematic historical survey of opera including selected musical illustrations.

118A-Z. History and Literature of Great Composers in Western Music
(4) STAFF
Prerequisites: Music 15 or consent of instructor. For the nonmajor.

A survey of the life and stylistic development of the music of an individual composer selected from the fourteenth to the twentieth century.

A: Ludwig van Beethoven
B: J. S. Bach
C: Wolfgang Amadeus Mozart
D: Frederic Chopin
E: Haydn
F-Z: Other composers

119. History and Literature of Organ Music
(4) STAFF
Prerequisites: Music 15 or consent of instructor. For the nonmajor.

A historical survey of composers and compositions for the organ with significant works of representative composers from each period studied in detail.

120A-B-C. Conducting
(2-2-2) OHYAMA
Prerequisites: Music 106 and consent of instructor. Must be taken consecutively.

An introduction to the fundamental techniques of conducting and score reading.

121A. Women performers in World Music Cultures
(4) STILLMAN
Prerequisite: Music 17 or consent of instructor.

A cross-cultural survey of the role of female performers in world cultures. The course will review theoretical models and examine the application of feminist theory to the study of female music practitioners and their roles in musical performance.

123. Advanced Harp
(1-4) STAFF

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units. (F,W,S)

124. Advanced Carillon
(1-4) WELCH

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units.

A continuation of Music 24, presenting advanced literature, advanced techniques of transcription and arrangement for the carillon, and a greater emphasis on actual performance.

125. Advanced Voice
(1-4) INGHAM, MANNION, MANZ

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units. (F,W,S)

126. Advanced Strings
(1-4) STAFF

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units.

Lec. 1. Violin: Copes, Ohyama
Lec. 2. Viola: Ohyama
Lec. 3. Cello: Rutkowski
Lec. 4. Double bass: Staff
Lec. 5. Guitar: Staff
(F,W,S)

127. Advanced Woodwinds
(1-4) STAFF

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units.

Lec. 1. Oboe
Lec. 2. Flute; Felber
Lec. 3. Clarinet
Lec. 4. Bassoon
(F,W,S)

128. Advanced Brass
(1-4) STAFF

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units.

Lec. 1. Trumpet: Monts
Lec. 2. French horn
Lec. 3. Trombone
(F,W,S)

129. Advanced Percussion
(1-4) GOODALL

Prerequisite: passing of sophomore audition. May be repeated for credit up to 24 units. (F,W,S)

130. Advanced Organ
(1-4) WELCH

Prerequisite: passing of sophomore audition. May be repeated for credit up 24 units. (F,W,S)

131. Advanced Harpsichord
(1-4) SHARON, WELCH

Prerequisites: passing of sophomore audition. May be repeated for credit up to 24 units. (F,W,S)

132A. Music and Dance
(4) STILLMAN

Prerequisite: Music 17 or consent of instructor.

A survey of relationships between music and dance movement. Examples will be drawn from ritual, theater, and social-participatory traditions in western and non-western societies.

133. Advanced Piano
(1-4) OBERACKER, YAZBECK

Prerequisite: passing of sophomore audition or consent of instructor. May be repeated for credit up to 24 units.

A continuation of Music 33. (F,W,S)

134A-B. Piano Pedagogy
(1-1) STAFF

Prerequisite: Music 33 or consent of instructor.

A. Study of various methods used in pedagogical research.

B. The study and teaching techniques of the standard repertoire.

134C-D. Voice Pedagogy
(2-2) MANNION

Prerequisite: consent of instructor.

C. Voice pedagogical concepts.

D. Survey of pedagogical literature.

135A-B-C-D-E-F. Piano Accompanying
(2-2-2) RUSSELL

Prerequisites: Music 35A-B-C or consent of instructor. Music 135A, 135B, and 135C may each be repeated once for credit.

An advanced study of accompaniment repertoire and performance (art song, instrumental literature, orchestral transcription, sight-reading). (A:F;B:W;C:S)

150. Opera/Song Repertoire
(2) INGHAM

Prerequisite: Music 25 or consent of instructor. May be repeated for credit up to 6 units.

A detailed study of operatic literature and concert literature (lieder, melodies, songs, and pieces with instruments). The interpretation of vocal music as a preparation for performance. (F,W,S)

151. String Repertoire
(2) STAFF

Prerequisite: consent of instructor.

A study of selected topics relating to the performance, composition, or history of four-string instruments.

152. Brass Repertoire
(2) STAFF

Prerequisite: consent of Instructor.

A study of selected topics relating to the performance, composition, or history of brass instruments.

153. Woodwind Repertoire
(2) STAFF

Prerequisite: consent of instructor.

A study of selected topics relating to the performance, composition, or history of woodwind instruments.

154. Percussion Repertoire
(2) STAFF

Prerequisite: consent of instructor.

A study of selected topics relating to the performance, composition, or history of percussion instruments.

155. Guitar Repertoire
(2) STAFF

Prerequisite: consent of instructor. May be repeated for credit up to 6 units.

A study of selected topics relating to the performance, composition, theory, or history of guitar music. (S)

156A. Arranging I
(4) STAFF

Prerequisite: for the major who has completed Music 4A-B-C and 5A-B-C, or consent of the instructor.

This is a basic course designed to cover the articulation, reharmonization, transposition, and phrasing techniques necessary to compose for rhythm and saxophone sections. Writing from the sketch is introduced as well.

156B. Arranging II
(4) STAFF

Prerequisite: for the major who has completed Music 4A-B-C, 5A-B-C, and 156A, or consent of the instructor.

Covers writing for brass and horns and subsequently the entire modern stage band. Students learn to write in a variety of styles.

157. Composers Forum
(1) STAFF

Prerequisites: Music 108A-B or consent of the instructor. May be repeated for credit up to 6 units.

Presentation and discussion of new works by students, faculty, and guest composers. (F,W,S)

158A-B-C-D. Diction
(1-1-1-1) INGHAM

Prerequisite: for Music 158A-B, Music 25 or consent of instructor. For Music 158C-D, primarily for voice majors; Music 25 or equivalent.

A: English diction. (W)
B: Italian diction. (F)
C: German diction. (W)
D: French diction. (S)

159. Opera Repertoire
(2) MANNION

Prerequisite: Music 25 or consent of instructor. May be repeated for credit up to 8 units.

Study and coaching in complete operatic roles. (S)

160A-B. Theory and Analysis
(3-3) HALL

Prerequisites: completion of Music 4A-F and Music 5A-F.

A: Tonal analysis. Analysis of large-scale formal structures and an introduction to modern linear analytical techniques. (F)

B: Analysis of non-tonal and twelve-tone music. (W)

160C. Special Topics in Music Theory
(3) HALL

Prerequisites: completion of Music 4A-F and Music 5A-F.

Advanced study in various aspects of music theory. (S)

161. Keyboard Literature
(4) STAFF

Prerequisite: open to music majors only. Not open for credit to students who have had Music 34A-B.

A study of the history and literature of keyboard music from the baroque through the twentieth century.

162. Choral Literature
(3) ZYTOWSKI

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

A historical and analytical survey of major choral works from the sixteenth century to the present.

163. Organ Music
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

An analytical survey of composers and compositions for organ with significant works of representative composers from each period studied in detail.

164. Chamber Music
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

An analytical study of the development of chamber music from its early beginnings to the present, with special emphasis on the changes in style.

165. Art Song
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

The development of the art song with special emphasis on the poetry and musical styles which evolved in each historical period.

166A. Music and Religion
(4) LAM, MONTS, STILLMAN

Prerequisite: Music 17 or consent of instructor.

Examination of the structural role and symbolic functions of music in religion in western and non-western societies.

167. National Elements in Music
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

In-depth discussion and analysis of music concentrating on the nineteenth and twentieth centuries of a particular country.

168A. The Musician and Society
(4) STAFF

Prerequisite: Music 17 or consent of instructor.

An exploration into the lives and roles of musicians in world cultures. Special attention will be given to the musician's personality as shaped by society, the acquisition of talent, training, economic rewards, and his/her roles in ritual and ceremonial occasions.

169. Studies in Keyboard Music
(3) STAFF

Prerequisite: Music 5A-E or consent of instructor. Primarily for the major; non-majors may enroll with consent of instructor.

A selective study of problems involving literature, performance, and analysis of piano and harpsichord music.

170A. The Anthropology of Music
(4) STILLMAN

Prerequisite: Music 17 or consent of instructor.

A cross-cultural exploration of music in the context of human lifeways. The course will examine how musical behavior reflects patterns exhibited in the broader realm of society, including its influence and role in ritual, festival, culture history, and social organization.

171. Nineteenth-Century American Piano Music
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

A study of the development of American piano music as it progressed from the postrevolutionary period through mid-century to late nineteenth-century romanticism.

172. Ethnomusicology Forum
(1) LAM, STILLMAN

Prerequisite: consent of instructor.

A forum for the presentation of research and performances by students, faculty, and visiting scholars and performers. Students must be currently involved in a research project. (F,W,S)

173. Studies in Music Theory
(3) VAN DEN TOORN

Prerequisites: Music 5A-F or consent of instructor.

Selected topics in musical analysis.

174A. Studies in Music Cultures of the World: The Americas
(3) STAFF

Prerequisite: Music 17 or consent of instructor

A survey of the music cultures of the Americas. Consideration of the use and function of music in society and its relationships to the other arts; consideration given to musical instruments, theoretical systems, musical structure, and performance practice.

174B. Studies in Music Cultures of the World: The Middle East, Africa, and Europe
(3) MARCUS

Prerequisite: Music 17 or consent of instructor

A survey of the music cultures of the Middle East, Africa, and Europe. Consideration of use and function of music in society and its relationships to the other arts; musical instruments, theoretical systems, musical structure, and performace practice.

174C. Studies in Music Cultures of the World: Asia and the Pacific
(3) STILLMAN

Prerequisite: Music 17 or consent of instructor.

A survey of the music cultures of Asia and the Pacific Islands. Consideration of use and function of music in society and its relationships to the other arts, musical instruments, theoretical systems, musical structure, and performace practice.

176. Studies in Ethnomusicology
(3) LAM

Prerequisites: Music 5A-E, three quarters of the Music 112A-F series, or consent of instructor.

An introduction to the field of ethnomusicology using theories and methods derived from the social sciences and humanities. Topic areas to include transcription and analysis, musicians, musical instruments, music acculturation, and the function of music in society.

177. Opera and Music Drama
(3) ZYTOWSKI

Prerequisites: three quarters of the Music 112A-F series, or consent of instructor.

A study of the history and literature of opera and music drama from their origins to the present day.

178A-B. Performance Practices
(3-3) PRIZER, FREEMAN

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

A: A study, through selected works, of historical performance practices of vocal and instrumental music from the Middle Ages through the romantic era. Problems to be treated will include instrumentation, ornamentation, figured bass, rhythm, tempo, articulation, and expression.

B: A study, through selected works, of performance practices of twentieth-century music, with particular attention to new notational concepts and their execution.

179. Studies in Medieval Music
(3) PLANCHART

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

Introduction to the liturgy and music of the Middle Ages.

180. Studies in Renaissance Music
(3) PRIZER

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

Cantus firmus settings of the fifteenth century. Chanson and motet. The parody mass of the sixteenth century.

181. Studies in Baroque Music
(3) PRIZER

Prerequisites: three quarters of the Music 112A-F series, or consent of instructor.

A selective study of various stylistic and historical aspects of baroque music.

182. Studies in Classic Music
(3) FREEMAN

Prerequisites: three quarters of the Music 112A-F series, or consent of instructor.

A study of the classical style from its source in the early eighteenth century to its culmination in the works of Haydn, Mozart, and Beethoven.

183. Studies in Romantic Music
(3) HSU

Prerequisites: three quarters of the Music 112A-F series, or consent of instructor.

The development of romanticism from eighteenth-century sources through the works of Strauss and Mahler.

184. Studies in Contemporary Music
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series, or consent of instructor.

A course which traces the stylistic development of music since 1910 and discusses various trends in compositional techniques.

184E. History and Development of Electronic Music
(4) STAFF

Prerequisites: three quarters of the Music 112A-F series or consent of instructor.

A study of the development of electronic music with emphasis on styles and composers.

185. History of Film Music
(3) HALL

Prerequisites: junior and senior music majors with consent of instructor.

The history of film music from silent film to present. Topics include style characteristics of major film composers and techniques used for various genres.

186. Studies in American Music
(3) STAFF

Prerequisites: three quarters of the Music 112A-F series, or consent of instructor.

Selected studies of music in the United States from its colonial beginnings to the mid-twentieth century. The music will be studied intrinsically as well as viewed from its social and cultural backgrounds.

187. Straus and Hofmannsthal
(4) HSU

For the majors in the Department of Germanic and Slavic Languages and Literatures and Department of Music.

An interdisciplinary course on the collaboration between composer and poet. A study of the correspondence and the operas with special emphasis on Elektra, Der Rosenkavalier, and Ariadne.

191. Special Topics
(2-4) STAFF

Prerequisites: upper-division standing and consent of instructor.

Special seminar in selected problems of current musicology, ethnomusicology, theory, or performance.

192. Senior Project
(3) STAFF

Prerequisites: required for graduation of Bachelor of Arts students. Should be taken during final quarter before graduation.

Senior audition, paper, or composition.

193A. Ethnography of Regional Musics: African American Music - Latin American
(4) STAFF

Prerequisite: Music 17 or consent of instructor. Not open to students who have received credit for Music 194B.

A comprehensive overview of music cultures in a wide range of world regions. methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193B. Ethnography of Regional Musics: African American Music - United States
(4) STAFF

Prerequisite: Music 17 or consent of instructor. Not open to students who have received credit for Music 194A.

A comprehensive overview of music cultures in a wide range of world regions. methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193C. Ethnography of Regional Musics: African Music
(4) STAFF

Prerequisite: Music 17 or conset of instructor. Not open to students who have received credit for Music 193.

A comprehensive overview of music cultures in a wide range of world regions. Methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193D. Ethnography of Regional Musics: Asian American Music
(4) LAM

Prerequisite: Music 17 or consent of instructor.

A comprehensive overview of music cultures in a wide range of world regions. Methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193E. Ethnography of Regional Musics: Chinese Music
(4) HSU, LAM

Prerequisite: Music 17, or consent of instructor. Not open to students who have received credit for Music 132.

A comprehensive overview of music cultures in a wide range of world regions. methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193F. Ethnography of Regional Musics: Middle Eastern Music
(4) MARCUS

Prerequisite: Music 17 or consent of instructor. Not open to students who have received credit for Music 121.

A comprehensive overview of music cultures in a wide range of world regions. methodologies and theories applied to musical instrucments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193G. Ethnography of Regional Musics: Music of India
(4) MARCUS

Prerequisite: Music 17 or consent of instructor. Not open to students who have received credit for Music 116.

A comprehensive overview of music cultures in a wide range of world regions. Methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193H. Ethnography of Regional Musics: Korean Music

(4) LAM

Prerequisite: Music 17 or consent of instructor.

A comprehensive overview of music cultures in a wide range of world regions. Methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systmes, musical performance, and the integration of music into society.

193I. Ethnography of Regional Musics: Japanese Music

(4) LAM

Prerequisite: Music 17 or consent of instructor.

A comprehensive overview of music cultures in a wide range of world regions. methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

193J. Ethnography of Regional Musics: Pacific Islands Music

(4) STILLMAN

Prerequisite: Music 17 or consent of instructor. Not open to students who have received credit for Music 166.

A comprehensive overview of music cultures in a wide range of world regions. methodologies and theories applied to musical instruments, the role of musicians in society, aesthetics of music, music structural systems, musical performance, and the integration of music into society.

194. The Aesthetics of Music

(4) LAM

Prerequisite: Music 17 or consent of instructor.

The cross-cultural study of the nature and importance of aesthetic criticism, aesthetic experience, and aesthetic values applied to music in world cultures.

194A-B. Studies in Afro-American Music

(4-4) STAFF

Prerequisite: upper-division standing.

A culture-historical study of Afro-American music in the United States, the Caribbean area, and Latin America. Emphasis will be placed on musical acculturation, music folklore, religious music, instruments, and the analysis of styles and forms.

A: The U.S.A.

B: The Caribbean and Latin America.

196. Honors Music

(4) STAFF

Prerequisites: qualified upper-division students by invitation of instructor and consent of department chair.

An undergraduate seminar for honor students. Carefully selected topics intended to foster excellence in research, theory, composition, or performance.

197. Senior Recital

(3) STAFF

Prerequisites: required for graduation of Bachelor of Music students. Should be taken during final quarter before graduation.

Required for bachelor of music students.

198. Readings in Music

(1-4) STAFF

Prerequisites: Student must (1) have attained upper-division standing; (2) have a minimum 3.0 cumulative grade-point average; (3) have completed three quarters of the Music 112A-F series; (4) consent of instructor. Students are limited to 4 units per quarter and 16 units total in all 198/199 courses.

Critical review and discussion of related topics in musicology, ethnomusicology, composition, theory, or performance.

199. Individual Research in Music

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 cumulative grade-point average; (3) have completed three quarters of Music 112A-F series; (4) consent of instructor. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses. Music 199 may be repeated to a maximum of 16 units. No more than 4 units may be applied to the music major.

Independent research under the guidance of a faculty member in the department. Course offers qualified students the opportunity to undertake independent research or work in a research group in topics in musicology, ethnomusicology, composition, theory, or performance.

GRADUATE COURSES

200A-B. Bibliography and Research Techniques

(4-4) STAFF

Prerequisite: graduate standing in Music.

A: A survey of music bibliography and research methods for the graduate student.

B: Individual research projects and discussions designed to give the graduate student understanding of the different approaches to historical and systematic musicology. Primarily intended for the M.A. and Ph.D. in musicology or theory.

200C. Bibliography and Research Techniques

(4) STILLMAN

Primarily intended for Ph.D. students in ethnomusicology.

Survey of bibliographic sources and individual research projects in ethnomusicology.

200D. Bibliography and Research Techniques

(4) VAN DEN TOORN

Primarily intended for M.A. and Ph.D. students in theory. Survey of bibliographic sources and individual research projects in theory.

201A-B-C. Notation and Music: Their Historical Interrelation

(4-4-4) PLANCHART, PRIZER

A: Plainchant-early polyphony-modal notation.

B: Black mensural notation from Franco of Cologne to the Ars subtilior.

C: White mensural notation, lute and keyboard tablatures.

202A-B. Seminar in Musicology

(4-4) STAFF

Prerequisites: M.A. or equivalent with consent of instructor. For advanced students only. This is a two-quarter in-progress course with grading for both quarters given upon completion of the second quarter. Music 202A-B may be repeated.

A two-quarter doctoral seminar dealing with selected topics in musicology.

203MT. Musicology-Theory

(1) STAFF

Prerequisite: graduate standing with musicology or theory emphasis.

A monthly meeting of musicology and theory students, faculty, and visiting scholars to present their current research.

204A. Graduate Musicianship I

(1) STAFF

An introduction for graduate students who fail the musicialship placemet exam. 204A reviews diatonic ear-training skills and their relation to theory. All grduate students encouraged to enroll; theory/composition students should especially consider 204 as a pedagogical study.

204B. Graduate Musicianship II

(1) STAFF

Prerequsites: Music 204A or consent of instructor.

Continues skills of 204A; reviews musicianship skills for modulation. All graduate students encouraged to enroll; theory/composition students should especially consider 204B as a pedagogical study of musicianship.

204C. Graduate Musicianship III

(1) STAFF

Prerequisite: Music 204B or consent of instructor.

Continues skills of Music 204A and B; 204C reviews musicianship skills for chromatic harmony. All graduate students welcome; theory and composition students expecially encouraged to take 204C as a pedagogical study.

206D. Timbre/Psychoacoustics

(4) STAFF

Prerequisite: consent of instructor.

Course explores use of timbre in twentieth-century music. Topics include: timbre and pitch; texture, masking; klangfarbenmelodie. Relevance of recent research in psychophysics and cognitive psychology to timbre, texture, and klangfarbenmelodie will be examined.

207. Seminar in Orchestration

(4) STAFF

Survey of orchestral usage in the twentieth century.

208A-B-C-D-E. Graduate Composition

(4-4-4-4-4) KRAFT, KUCHERA-MORIN

Individual instruction in composition. (F,W,S)

208F-G-H-I-J-K-L. Graduate Composition

(4-4-4-4-4-4-4) KRAFT, KUCHERA-MORIN

Individual instruction in composition. (F,W,S)

209IA. Direct Digital Synthesis, Processing and Composition

(4) KUCHERA-MORIN

Prerequisites: Graduate Music majors and graduate non-majors in areas of electrical engineering, computer science, physics and mathematics. Consent of instructor.

First quarter of general purpose computing for computer music applications. Topics include: Introduction to the UNIX operating system and the vi editor, music synthesis using C-based computer programs and score input programs.

209IB. Direct Digital Synthesis, Processing and Composition

(4) KUCHERA-MORIN

Prerequisite: Music 209IA.

Second quarter of a 3-quarter sequence course will concentrate on computer music instrument design using C-based music software and exploring applications of frequency modulation, amplitude modulation, additive/subtractive synthesis, digital signal processing and computer music composition.

209IC. Direct Digital Synthesis, Processing and Composition

(4) KUCHERA-MORIN

Prerequisites: Music 209IA and IB.

Third quarter of 3-quarter sequence course will concentrate on advanced C-based computer programs for digital signal processing and instrument design. Most emphasis this quarter will be music composition.

209LA. Real-Time Digital Music Synthesis, Processing and Composition

(2) KUCHERA-MORIN

Prerequisites: graduate music majors and graduate non-majors in areas of electrical engineering, computer science, physics, and math. Consent of instructor.

First quarter of a 3-quarter sequence course will concentrate on multi-track recording, mixing, digital signal processing using micro-computers and special purpose dsp equipment.

209LB. Real-Time Digital Music Synthesis, Processing and Composition

(2) KUCHERA-MORIN

Prerequisite: Music 209LA.

Second quarter of a 3-quarter sequence course will concentrate on digital synthesis (primarily frequency modulation, simple and complex; but also amplitude modulation and additive synthesis) using micro-computers, digital synthesizers and processing equipment.

209LC. Real-Time Digital Music Synthesis, Processing and Composition

(2) KUCHERA-MORIN

Prerequisite: Music 209LA and LB.

Third quarter of a 3-quarter sequence course will concentrate on real-time computer music composition with micro-computer and digital synthesis/processing equipment.

209N. Special Topics in Electronic Music

(3) KUCHERA-MORIN

Prerequisite: Music 209L or consent of instructor. May be repeated up to 12 units.

Advanced topics in computer music composition, synthesis, and digital signal processing.

209T. Music and Media

(4) STAFF

Prerequisite: consent of instructor.

Creative projects in synthesized and acoustic sound. Synchronization with film using SMPTE code. Interdisciplinary collaborations. Previous experience with computer/synthesizer/film desirable.

210A-B-C. Score Reading and Analysis

(2-2-2) STAFF

Prerequisite: conducting majors only.

The study of major representative works in the orchestral and choral repertoire.

216. Studies in Music of India

(4) STAFF

Prerequisite: graduate standing.

A survey of music traditions of the Indian subcontinent, from classical to folk and popular. Emphasis given to the position of music in Hindu philosophy, the role of music in society, musical instruments, and modal and rhythmic structures (raga and tala).

217. Studies in Pacific Islands Musics

(4) STILLMAN

Prerequisite: graduate standing.

Intensive study of themes and issues relevant to Pacific Islands musics, including interpretation of sources, musical ramifications of intercultural contact, contemporary performance contexts, and revivals.

220. Graduate Performance

(4) STAFF

Prerequisites: audition. May be repeated for credit of up to 24 units for Master of Music and 24 units for Doctor of Music Arts degree.

Graduate performance.

221. Studies in Music of the Middle East

(4) STAFF

Prerequisite: graduate standing.

Arab, Turkish, and Persian music traditions are studied from historical, cultural, and musicological perspectives. Emphasis is given to the position of music in Islam, present-day performers, and modal and rhythmic structures.

222. Ethnomusicology Forum

(2) LAM, MONTS, STILLMAN

Prerequisite: graduate standing.

A forum for the presentation of research and performances by students, faculty, and visiting scholars and performers. Students must be currently involved in a research or performance project.

223. Studies in Chinese Music

(4) LAM, HSU

Prerequisite: graduate standing.

A study of traditional and contemporary music of China: historical background and intercultural influences, instruments and ensembles, theatrical and dance music, music in social context; analysis of forms and styles; theory and practice; aesthetics.

224. Musical Instruments of the World

(4) HSU

Prerequisite: graduate standing.

A systematic study of musical instruments in world cultures involving classification, distribution, acoustical phenomena, and physical typologies. Emphasis on cross-cultural, comparative analysis of solo and ensemble groupings, and the role of musical instruments in the study of acculturation, historical diffusion, and aesthetics.

225. Field and Laboratory Methods in Ethnomusicology

(4) STAFF

Prerequisite: Music 276.

The development and execution of field research designs. Practical field experience using various techniques of data collection and management, including music recording, photography, filming, questionnaires, and interviewing. The use and interpretation of standard and innovative laboratory methods for processing data, including computer analysis.

226. Notation and Transcription in Ethnomusicology

(4) STILLMAN

Survey of existing notational systems and exercises in ethnomusicaological transcription, with particular attention to issues related to the visual representation of performed musical sound.

227A-B. Seminar in Ethnomusicology

(4-4) LAM, STILLMAN

Prerequisite: graduate standing in musicology.

A two-quarter graduate seminar examining special problems, current theories, analytic procedures, and recent innovations in ethnomusicology.

230. Conducting

(3) OHYAMA

Prerequistes: Audition required by entrance (for M.M.) Master of Music degree.

Advanced conducting techniques, score reading and analysis, general rehearsal procedures and repertoire for each type of ensemble: symphony, chamber orchestra and large vocal/instrumental ensembles.

231. Graduate Vocal Conducting

(3) STAFF

Audition required for entrance. May be repeated up to 18 units.

Advanced study in preparation of and conducting vocal and choral ensembles.

234C-D. Voice Pedagogy

(2-2) MANNION

Prerequisite: graduate standing.

C: Voice pedagogical concepts.

D: Survey of pedagogical literature.

234E-F. Accompanying Pedagogy

(2-2) RUSSELL

E. Accompanying pedagogical concepts

F. Survey of accompanying pedagogical literature

235A-B-C. Accompanying Techniques and Repertoire

(2-2-2) RUSSELL

Prerequisite: piano majors only or consent of instructor.

Emphasizes advanced accompaniment techniques, the intensive study of the French and German song cycle, secco recitative, and orchestral score-reading. (F,W,S)

235D-E-F. Accompanying Techniques and Repertoire

(2-2-2) RUSSELL

Prerequisite: piano majors only or consent of instructor.

Emphasizes advanced accompaniment techniques, the intensive study of the French and German song cycle, secco recitative, and orchestral score-reading. One to one tutorial.

236. Studies in Pacific Islands Musics

(4) STILLMAN

Prerequisite: graduate standing.

Intensive study of themes and issues relevant to Pacific Islands musics, including interpretation of sources, musical ramifications of intercultural contacts, contemporary performance contexts, and revivals.

239. Advance Study of Orchestral Repertoire

(2) STAFF

Prerequisite: graduate standing.

Master class format instruction, preassigned and prepared excerpts of key repertoire encountered in orchestral auditions and orchestral works. Discussions focus on what the audition committee listens for in each excerpt and in each individual's playing.

250A-B. Seminar in Music Theory

(4-4) VAN DEN TOORN

Topics in theoretical research. Content will vary depending on instructor.

A: Analysis and theory of atonal music.

B: Analysis and theory of twelve-tone music.

2S1A-B. Seminar in the History of Theory

(4-4) VAN DEN TOORN

A: History of early music theory.

B: History of music theory from Rameau to Schenker.

251C. Seminar in the History of Theory

(4) VAN DEN TOORN

A survey of modern speculative theory.

252A-B. Seminar in Schenkerian Analysis

(4-4) VAN DEN TOORN

Prerequisite: Music 252A is prerequisite to 252B.

A: Readings in the theory of Schenkerian analysis. Basic analytical techniques.

B: Advanced reading in Schenkerian theory. Analysis of large forms.

2S2C. Special Topics in Analysis

(4) VAN DEN TOORN

Prerequisites: Music 252A-B.

Modern analytical techniques. Possible topics include set theory, twelve-tone analysis, and theories of perception.

2S7. Composers Forum

(2) STAFF

Prerequisite: 208 or consent of instructor. May be repeated for credit up to 16 units.

A forum for the presentation and discussion of new works by student, faculty, and guest composers. Participation and paper required. (F,W,S)

2S8. Opera/Song Repertoire

(3) STAFF

Prerequisite: consent of instructor.

A detailed study of operatic literature and concert literature (lieder, melodies, songs, and pieces with instruments) for graduate students. The interpretation of vocal music as a preparation for performance. (F,W,S)

2S9. Keyboard Literature

(4) STAFF

Prerequisite: graduate standing.

A study of the history and literature of keyboard music from the baroque through the twentieth century.

260A-B. Theory and Analysis

(4-4) HALL

May not be repeated for credit.

A: Tonal analysis. Analysis of large-scale formal structures and an introduction to modern linear analytical techniques. (F)

B: Analysis of non-tonal and twelve-tone music.

260C. Special Topics in Music Theory

(4) HALL

May not be repeated for credit.

Advanced study in various aspects of music theory.

261A-B. Seminar in Music of the Middle Ages

(4-4) HALL

A: Origins, evolution, and structure of Christian liturgy and chant.

B: European polyphony.

263A-B. Seminar in Music of the Renaissance.

(4-4) PLANCHART, PRIZER

A: Sacred music, 1350 to 1600.

B: Secular music, 1400 to 1600.

265A-B. Seminar in Music of the Baroque Period

(4-4) PRIZER

A: Early baroque.

B: Late baroque

266A-B. Seminar in Music of the Classical Period

(4-4) FREEMAN

A study of classical style through:

A: Selective forms.

B: Schools and composers.

268A-B. Seminar in Music of the Romantic Period

(4-4) HSU

A: Study of the origins of romantic music and its development to 1850.

B: Study of late romanticism with special emphasis on music at the turn of the century.

269A-B. Seminar in Music of the Twentieth Century

(4-4) STAFF

A: Style and theory.

B: Special topics.

270. Studies in Asian American Music

(4) LAM

Prerequisite: graduate standing.

A study of the origins, cultural values, and functions of music in Asian American communities, including an examination of music in the theatre, religion, and festival. Special attention will be given to the classical and folk musics of recent immigrants in American urban centers.

271. Nineteenth-Century American Piano Music

(4) STAFF

A study of the development of American piano music as it progressed from the postrevolutionary period through mid-century to late nineteenth-century romanticism.

272. Studies in Keyboard Music

(4) STAFF

Prerequisite: primarily for the major emphasizing keyboard performance.

A selective study of problems involving literature, performance, and analysis of piano and harpsichord music.

272O. Organ Music

(4) WELCH

Prerequisite: consent of instructor.

An analytical survey of composers and compositions for organ with significant works of representative composers from each period studied in detail.

273. Studies in Music Theory

(4) VAN DEN TOORN

Selected topics in musical analysis.

274A. Studies in Music Cultures of the World: The Americas

(4) STAFF

A survey of the music cultures of the Americas. Will consider the use and function of music in society and its relationships to the other arts; consideration given to musical instruments, theoretical systems, musical structure, and performance practice.

274B. Studies in Music Cultures of the World: The Middle East, Africa, and Europe

(4) MARCUS

A survey of the music cultures of the Middle East, Africa, and Europe. Will consider use and function of music in society and its relationships to the other arts; musical instruments, theoretical systems, usical structure, and performance practice.

274C. Studies in Music Cultures of the World: Asia and the Pacific

(4) STILLMAN

A survey of the music cultures of Asia and the pacific Islands. Will consider use and function of music in society and its relationships to the other arts; musical instruments, theoretical systems, musical structure, and performance practice.

275. Seminar in Music Criticism

(4) HSU

Investigation of important critical writing in music from the early eighteenth century to the present with study of related works in the field of aesthetics. Analysis of the scope and impact of criticism in the musical life of each period.

276. Studies in Ethnomusicology

(4) STAFF

An introduction to the field of ethnomusicology using theories and methods derived from the social sciences and humanities. Topic areas to include transcription and analysis, musicians, musical instruments, music acculturation, and the function of music in society.

277. Opera and Music Drama

(4) STAFF

A study of the history and literature of opera and music drama from its origin to the present day.

278A-B. Performance Practices

(4-4) PRIZER, FREEMAN

A: A study, through selected works, of historical performance practices of vocal and instrumental music from the Middle Ages through the romantic era. Problems to be treated will include instrumentation, ornamentation, figured bass, rhythm, tempo, articulation, and expression.

B: A study, through selected works, of twentieth-century music with particular attention to new notational concepts and their execution.

279. Studies in Medieval Music

(4) PLANCHART

Introduction to the liturgy and music of the Middle Ages.

280. Ethnomusicology: Theory and Practice

(4) HSU

Study of the evolution of the discipline, its theories, and its methods. Major aspects of ethnomusicological research exemplified in the study of music in Chinese history.

281. Interdisciplinary Studies

(4) STAFF

An interdisciplinary course between music and other disciplines, such as the language courses, physics, mathematics, drama, dance, etc.

282. Studies in Classical Music

(4) FREEMAN

A study of the classical style from its source in the early eighteenth century to its culmination in the works of Haydn, Mozart, and Beethoven.

283. Studies in Romantic Music

(4) HSU

The development of music since 1810 and various trends in composition.

284. Studies in Contemporary Music

(4) STAFF

Prerequisite: graduate standing.

A course which traces the stylistic development of music since 1910 and discusses various trends in compositional techniques.

284E. History and Development of Electronic Music

(4) STAFF

Prerequisites: Music 184E or consent of instructor.

A study of the development of electronic music with emphasis on styles and composers.

285. History of Film Music

(4) STAFF

Prerequisite: graduate standing in music.

The history of film music from silent film to the present. Topics include style characteristics of major film composers and techniques used for various genres.

286. Studies in American Music

(4) STAFF

Selected studies of music in the United States from its colonial beginnings to the mid-twentieth century. The music will be studied intrinsically as well as viewed from its social and cultural backgrounds.

287. Strauss and Hofmannsthal

(4) HSU

An interdisciplinary course in the collaboration between composer and poet. A study of the correspondence and the operas with special emphasis on Elektra, Der Rosenkavalier, and Ariadne.

291. Studies in Renaissance Music

(4) PRIZER

Cantus firmus settings of the fifteenth century. Chanson and motet. The parody mass of the sixteenth century.

292. Studies in Baroque Music

(4) PRIZER

A selective study of various stylistic and historical aspects of baroque music.

293. Studies in African Music

(4) STAFF

Prerequisite: graduate standing in music or consent of instructor.

An intensive study of the music traditions of sub-Saharan Africa. The course stresses the historical background and cultural influences, dance, musicians, instruments and ensembles, and the analysis of forms and styles.

294A. Studies in Afro-American Music: The United States

(4) STAFF

Prerequisites: graduate standing in music or consent of instructor.

A culture-historical study of Afro-American music in the United States. Emphasis will be placed on musical acculturation, music folklore, religious music, instruments, and the analysis of styles and forms.

294B. Studies in Afro-American Music: The Carribean and Latin America

(4) STAFF

Prerequisite: graduate standing in music or consent of instructor.

A culture-historical study of Afro-American music in the Carribean and Latin America. Emphasis will be placed on musical acculturation, music folklore, religious music, instruments, and the analysis of styles and forms.

295A-B. Master of Music Performance Recital

(2-2) STAFF

Prerequisite: Music 200A.

Preparation of two major performances required for the Master of Music degree. (F,W,S)

296A-B-C. Performance Literature

(4) STAFF

A study of problems in the analysis and performance of major works in selected:

A. keyboard
B. strings
C. voice.

297A-B. Doctor of Music Arts Performances

(2-2) STAFF

Preparation of two major performances required for Doctor of Music Arts degree.

298A-B-C. Seminar in Performance Methodology and Literature

(3) STAFF

A detailed study of selected masterworks in the performer's repertoire and of specific approaches to their performance, as based on evidence from relevant analytical and historical literature.

A. keyboard
B. strings
C. voice.

299A-B. Doctor of Music Arts Seminar: Historical/Theoretical Aspects of Music.

(4-4) STAFF

Prerequisite: Music 200A.

A study of selected repertories, not confined to a single genre or period, from the technical perspective of music theory and history.

501. Directed Teaching in Music

(2-4) STAFF

Prerequisite: appointment as teaching assistant.

Covers development of teaching techniques especially oriented to lower-division instruction. Theoretical aspects covered at beginning of each quarter. Practical techniques discussed including weekly meeting with class instructor. Required course for all teaching assistants. (F,W,S)

502. Teaching Practicum

(2-4) STAFF

Prerequisite: appointment as teaching assistant or associate. No unit credit allowed toward advanced degree.

Teaching assistant: leads discussion of topics covered in the lecture. Associate: assumes full responsibility for the teaching of one or more courses. (F,W,S)

590-series courses may be taken for a maximum of 24 units.

594AA-ZZ. Special Topics

(2-4) STAFF

Special seminar in selected problems of current musicology, ethnomusicology, composition, theory, or performance. (F,W,S)

595AA-ZZ. Group Studies

(2-4) STAFF

Critical review of research in selected problems of musicology, ethnomusicology, composition, theory, or performance. (F,W,S)

596AA-ZZ. Directed Reading and Research

(2-4) STAFF

Individual tutorial for research in musicology, ethnomusicology, composition, theory, or performance; instructor will usually be student's major professor. (F,W,S)

598AA-ZZ. Preparation for the Master's Degree
(1-12) STAFF
Prerequisite: no unit credit allowed toward advanced degree.

Instructor will be chair of student's thesis committee in musicology, ethnomusicology, composition, theory, or performance. (F,W,S)

599AA-ZZ. Ph.D. Dissertation Research and Preparation
(1-12) STAFF

Instructor will be chair of student's doctoral committee. (F,W,S)

Music Performance Laboratories

LOWER DIVISION

Music courses A36 through A49 may be repeated for credit up to 6 units with the exception of Music A44 and A42. Enrollment by audition or consent of instructor.

A34. Symphonic Wind Ensemble
(1) STAFF
Prerequisite: entrance by audition or consent of instructor. May be repeated for credit up to 6 units.

Masterworks of the literature for ensembles smaller than orchestral or full band scoring. Although the basic ensembles feature winds, both strings and percussion are utilized. Advanced players only.

A36. Men's Chorus
(1) ZYTOWSKI (F,W,S)

A36S. Men's Chorus — Schubertians
(1) ZYTOWSKI
Prerequisite: concurrent enrollment in Music A36 required.
(F,W,S)

A37. UCSB Collegiate Chorale
(1) ZYTOWSKI
(F,W,S)

A37S. Chamber Choir
(1) ZYTOWSKI
Prerequisites: by audition only. Concurrent enrollment in Music A 37 required. For lower-division conducting majors.

Special laboratory chorus. (F,W,S)

A37W. Women's Ensemble
(1) ZYTOWSKI
Prerequisites: by audition or consent of instructor. For lower-division women.

Performance laboratory. (F,W,S)

A38. Opera Workshop
(1) ZYTOWSKI, INGHAM

A39. Guitar Ensemble
(1) STAFF
Prerequisite: for lower-division students.
(F,W,S)

A40. Contemporary Music Ensemble
(1) KRAFT
Prerequisite: admission by invitation or audition.

Reading sessions and preparation for performace of contemporary music. There will be two concerts each quarter. Both the Anacapa Quartet and the young Artists Quartet will be involved in the concert each quarter.

A41. Piano Ensemble
(1) YAZBECK
(F,W,S)

A42. Orchestra
(2) OHYAMA
Prerequisite: for lower-division students.
(F,W,S)

A43. Flute Choir
(1) FELBER

A44. Chamber Music Ensemble
(1) STAFF
May be repeated for credit up to 9 units.
(F,W,S)

A45. Brass Choir
(1) STAFF

A46. Woodwind Ensemble
(1) STAFF

A47. Symphonic Band
(1) STAFF

A47S. Jazz Ensemble
(1) STAFF

A48. Collegium Musicum: Cappella Cordina
(1) PLANCHART, PRIZER
(F,W,S)

A48S. Collegium Musicum: Musica Antiqua
(1) PLANCHART, PRIZER
(F,W,S)

A49. Percussion Ensemble
(1) GOODALL

A70AA-ZZ. Ethnomusicology Performance Ensemble
(1) STAFF
Prerequisite: consent of instructor. May be repeated for credit to a maximum of 6 units.

Group performance of music from selected world cultures. (F,W,S)

A70I (AA-ZZ). Ethnomusicology Performance Ensemble
(1) STAFF
Prerequisite: consent of instructor.

Group performance of music from selected world cultures (India).

A70N (AA-ZZ). Ethnomucicology Performance Ensemble
(1) STAFF
Prerequisite: consent of instructor.

Group performance of music from selected world cultures (Middle East).

UPPER DIVISION

Music courses 136 to 149 may be repeated for credit up to 9 units with the exception of Music A 137S, 139, 142, and 144. Enrollment by audition or consent of instructor.

A105AA-ZZ. Ethnomusicology: Performance Ensemble
(1) STAFF
Prerequisite: consent of instructor. May be repeated for credit to a maximum of 6 units.

Group performance of music from selected world cultures. (F,W,S)

A134. Symphonic Wind Ensemble
(1) STAFF
Prerequisite: entrance by audition or consent of instructor. May be repeated for credit up to 6 units.

Masterworks of the literature for ensembles smaller than orchestral or full band scoring. Although the basic ensembles feature winds, both strings and percussion are utilized. Advanced players only.

A136. Men's Chorus
(1) ZYTOWSKI
(F,W,S)

A136S. Men's Chorus — Schubertians
(1) ZYTOWSKI
Prerequisite: concurrent enrollment in Music A136 required.
(F,W,S)

A137. UCSB Collegiate Chorale
(1) ZYTOWSKI
(F,W,S)

A137S. Chamber Choir
(1) ZYTOWSKI
Prerequisites: by audition only. Upper-division standing. For upper-division conducting majors. Concurrent enrollment in Music A 137 required.

Special laboratory chorus. (F,W,S)

A137W. Women's Ensemble
(1) ZYTOWSKI
Prerequisites: by audition or consent of instructor. For upper-division women.

Performance laboratory. (F,W,S)

A138. Opera Workshop
(1) ZYTOWSKI, INGHAM

A139. Guitar Ensemble
(1) STAFF
Prerequisite: for upper-division students. May be repeated up to 6 units.
(F,W,S)

A140. Contemporary Music Ensemble
(1) KRAFT
Prerequisite: admission by invitation or audition

Reading sessions and preparation for performance of contemporary music. There will be two concerts each quarter. Both the Anacapa Quartet and the Young Artists Quartet will be involved in the concert each quarter.

A141. Piano Ensemble
(1) YAZBECK
(F,W,S)

A142. Orchestra
(2) OHYAMA
Prerequisites: enrollment by audition or consent of instructor. For upper-division students. May be repeated for credit up to 12 units.

Music performance laboratory. (F,W,S)

A143. Flute Choir
(1) FELBER

A144. Chamber Music Ensemble
(2) STAFF
Entrance by audition or consent of instructor. May be repeated up to 18 units.
(F,W,S)

A145. Brass Choir
(1) STAFF

A146. Woodwind Ensemble
(1) STAFF

A147. Symphonic Band
(1) STAFF

A147S. Jazz Ensemble
(1) STAFF

A148. Collegium Musicum: Cappella Cordina
(1) PLANCHART, PRIZER

(F,W,S)

A148S. Collegium Musicum: Musica Antiqua
(1) PLANCHART, PRIZER
(F,W,S)

A149. Percussion Ensemble
(1) GOODALL
Prerequisite: for upper-division students. May be repeated for credit up to 6 units.

GRADUATE COURSES

Music A courses 236 to 249 may be repeated for credit of up to 12 units (with the exception of Music A 240). Enrollment by audition or consent of instructor.

A221AA-ZZ. Ethnomusicology: Performance Ensemble
(1-2) STAFF
Prerequisites: consent of instructor.

Group performance of music from selected world cultures. (F,W,S)

A234. Symphonic Wind Ensemble
(2) STAFF
Prerequisite: entrance by audition or consent of instructor. Graduate students only.

Masterworks of the literature for ensembles smaller than orchestral or full band scoring. Although the basic ensembles feature winds, both strings and percussion are utilized.

A236. Men's Chorus
(2) ZYTOWSKI (F,W,S)

A236S. Men's Chorus — Schubertians
(2) ZYTOWSKI
Prerequisite: concurrent enrollment in Music A236 required. (F,W,S)

A237. UCSB Collegiate Chorale
(2) ZYTOWSKI (F,W,S)

A237S. Chamber Choir
(2) ZYTOWSKI
Prerequisites: by audition only. Concurrent enrollment in Music A 237 required.

Special laboratory chorus for graduate conducting majors. (F,W,S)

A237W. Women's Ensemble
(2) Staff
Prerequisite: by audition or consent of instructor.

Performance laboratory for graduate women. (F,W,S)

A238. Opera Workshop
(2) ZYTOWSKI, INGHAM

A239. Guitar Ensemble
(2) STAFF
Prerequisites: graduate standing and consent of instructor.

Preparation, rehearsal, and performance of ensemble literature for more than one guitar. (F,W,S)

A240. Contemporary Music Ensemble
(2) KRAFT
Prerequisite: admission by invitation or audition

Reading sessions and preparation for perforamnce of contemporary music. There will be two concerts each quarter. Both the Anacapa Quartet and the Young Artists Quartet will be involved in the concert each quarter.

A241. Piano Ensemble
(2) STAFF (F,W,S)

A242. Orchestra
(2) OHYAMA (F,W,S)

A243. Flute Choir
(2) FELBER

A244. Chamber Music Ensemble
(2) STAFF (F,W,S)

A245. Brass Choir
(2) STAFF

A246. Woodwind Ensemble
(2) STAFF

A247. Symphonic Band
(2) STAFF

A247S. Jazz Ensemble
(2) STAFF

A248. Collegium Musicum: Cappella Cordina
(2) PLANCHART, PRIZER (F,W,S)

A248S. Collegium Musicum: Musica Antiqua
(2) PLANCHART, PRIZER (F,W,S)

A249. Percussion Emsemble
(2) STAFF

Natural Science Sequence

Department of Biological Sciences,
Division of Mathematical, Physical, and Life Sciences,
Building 478, Room 1200A;
Telephone (805) 893-3511

Department of Chemistry,
Division of Mathematical, Physical, and Life Sciences,
Chemistry Building 1005;
Telephone (805) 893-2931

Department of Physics,
Division of Mathematical, Physical, and Life Sciences,
Broida Hall 3019;
Telephone (805) 893-3888

The natural science sequence is a unified survey of important concepts in the natural sciences and their technical and social implications. The sequence is sponsored jointly by the Departments of Biological Sciences, Chemistry, and Physics.

The natural science courses should be taken in order: A before B, B before C. They are not generally open to students who have completed a college-level course in the biological or physical sciences; exceptions can be made with consent of the instructor and approval of the provost.

Natural Science Courses

LOWER DIVISION

The courses are not generally open to students who have completed a college level course in the biological or physical sciences. Exceptions can be made with consent of the instructor and approval of the provost.

1A. Contemporary Natural Science—Physics
(4) STAFF
Not open for degree credit for students who have completed Physics 10. Lecture, 3 hours; discussion, 1 hour.

Modern description of matter from the scale of the universe to the scale of subatomic particles. Focus on concepts of order, simplicity, and beauty of nature at a fundamental level. Basically descriptive; some familiarity with high school algebra is useful.

1B. Contemporary Natural Science—Chemistry
(4) STAFF
Prerequisite: Natural Science 1A or Physics 10, or consent of instructor. Not open for degree credit to students who have completed Chemistry 25. Lecture, 3 hours; laboratory, 2 hours.

Introductory survey of basic chemical principles in the context of selected technological and environmental problems. Topics have included: atomic theory, states of matter, the mole in weight relations and solutions, electronic structure of the atom, bonding in molecules, periodicity, the atmosphere and atmospheric pollution, rates of reaction and equilibrium, ionic equilibrium and pH, thermodynamics, energy production, and classes of organic compounds. Laboratory experiments demonstrate how analytical measurements can be made and include various chemical phenomena. (W)

1C. Contemporary Natural Science—Biology
(4) GIBOR
Prerequisite: not open for credit toward graduation to students who have completed Biology 20. Lecture, 3 hours; Discussion, 1 hour.

Selected aspects of modern biology. Topics generally include cell structure, cellular chemistry, nutrition, population growth, birth control, basic genetics, evolution, and ecology. (S)

Philosophy

Department of Philosophy,
Division of Humanities and Fine Arts,
South Hall 5631;
Telephone (805) 893-3122
Department Chair: Hubert R. G. Schwyzer

Faculty

Anthony Brueckner, Ph.D., UC Los Angeles, Associate Professor *(epistemology, history of modern philosophy, philosophy of language, metaphysics, Kant)*

Donald W. Crawford, Ph.D., University of Wisconsin, Madison, Professor *(aesthetics, environmental aesthetics)*

Francis W. Dauer, Ph.D., Harvard University, Professor *(theory of knowledge, Hume, Wittgenstein, logic)*

Herbert Fingarette, Ph.D., UC Los Angeles, Professor Emeritus

Noel Fleming, D. Phil., Oxford University, Professor Emeritus

J. William Forgie, Ph.D., Cornell University, Professor *(philosophy of religion, philosophy of language)*

Matthew Hanser, Ph.D. expected, UC Los Angeles, Acting Assistant Professor *(ethics, theory of action, philosophy of mind)*

Christopher McMahon, Ph.D., University of Pittsburgh, Associate Professor *(ethics, social philosophy, value theory)*

Nathan Salmon, Ph.D., UC Los Angeles, Professor *(philosophy of language, metaphysics, philosophy of logic)*

Hubert R. G. Schwyzer, Ph.D., UC Berkeley, Professor *(metaphysics, Kant)*

Heda Segvic, Ph.D. expected, Princeton University, Acting Assistant Professor *(ancient philosophy, aesthetics, ethics)*

Alexander Sesonske, Ph.D., UC Los Angeles, Professor Emeritus

Charlotte Stough, Ph.D., UC Berkeley, Professor Emerita

Burleigh T. Wilkins, Ph.D., Princeton University, Professor *(philosophy of history, political and legal philosophy)*

Because the major in philosophy emphasizes and enhances analytical skills, it is useful for the large number of careers that require general humanistic training at the undergraduate level. Three concentrations within the major accommodate the diversity of student needs and interests and the diversity of philosophy. (1) The core philosophy concentration is designed for students who seek thorough training in philosophy, either as a way of mastering a discipline at the undergraduate level or as preparation for graduate study. (2) The ethics and public policy concentration focuses on moral and legal problems confronting the community, and on the responsibilities of various professions. It is intended for a wide variety of students, including particularly those who plan careers in law (where early specialized training is discouraged), the public sector, or medicine (where it would be a useful adjunct). (3) The theory and practice of analytical reasoning concentration stresses training in reasoning and analysis. It is a useful preparation for a variety of careers, such as business management, because analytical reasoning and conceptual analysis contribute to problem solving and decision making in most professions. This concentration has both a traditional philosophical component and an applied component.

After completing specific prerequisites, students with a bachelor's degree in philosophy are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undeclared students and liberal studies majors should consult with the external undergraduate adviser. There is an adviser for each of the three concentrations, as well as an internal undergraduate adviser who has final authority on such matters as waivers and exceptions. The "Information Sheet for Undergraduate Philosophy Majors" is available at the department office at all times; a list of courses to be offered each quarter, with specific descriptions and required texts, is available at registration time.

Undergraduate Program

Bachelor of Arts—Philosophy

The philosophy major requires a total of 48 units, at least 36 of which must be upper-division, distributed in one of the following three concentrations. The specific concentration selected will not be formally acknowledged on the student's official transcript or diploma.

Core Philosophy Concentration

Preparation for the major. Philosophy 3 or 183. Philosophy 183 applies to the 36 upper-division units required.

Upper-division major. At least 36 upper-division units in philosophy, which must include:

A. Two courses from Philosophy 100A-B-C-D-E;
B. One course from Philosophy 150A-B-C-D-E;
C. Four courses from the following two groups, with at least one from each group:
Group 1: Philosophy 151, 152, 153, 156, 195;
Group 2: Philosophy 160, 161, 162, 163, 164, 165, 166A, 166B;
D. Additional philosophy electives to make 36 upper-division units, and a total of 48 for the major.

Students preparing for graduate study are encouraged to supplement this program with additional courses in individual historical figures and/or courses from Philosophy 150A-E and 184.

Ethics and Public Policy Concentration

Preparation for the major. Philosophy 3 or 183, Philosophy 6 or 7. (Philosophy 183 applies to the 36 upper-division units required.)

Upper-division major. At least 36 upper-division units in philosophy, which must include:

A. Philosophy 100A;
B. Philosophy 152 or 153 or 195;
C. One course from Philosophy 161, 165, 166A;
D. At least five courses from Philosophy 120, 121, 122, 126, 131, 134, 138, 139, 140, 141, 143, 144, 145, 150A, 188, 197P;
E. Additional philosophy electives to make 36 upper-division units and a total of 48 for the major.

Theory and Practice of Analytical Reasoning Concentration

Preparation for the major. Philosophy 3; Philosophy 6 or 7; and one course from the following: Computer Science 5AA-ZZ; Economics 1, 2, 5; Psychology 1; or an alternate course relevant to analytical reasoning and approved by the undergraduate adviser.

Upper-division major. At least 36 upper-division units, up to 8 of which may be taken from relevant courses in other departments with approval of the undergraduate adviser. The 36 units must include:

A. Two courses from Philosophy 100A-B-C;
B. One course from Philosophy 120, 143, 150A-B-C, 183;
C. One course from Philosophy 152, 153, 160, 161, 162, 163, 164, 165, 166A, 166B, 195;
D. Two courses from Philosophy 102A-B, 197R;
E. Additional electives to make 36 upper-division units and a total of 48 units for the major.

Senior Honors Program

In the last quarter of the junior year, or after 105 units toward graduation have been completed, students with a minimum overall grade-point average of 3.0 may be invited to participate in the senior honors program. Students in the program have an opportunity to do advanced work in a subject or area of special interest to them, leading to graduation with Distinction in the Major. Programs of advanced work will be individually designed, subject to the approval of the undergraduate affairs committee. For further information, contact the undergraduate adviser.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university requirements described in the chapter "Graduate Education at UCSB."

Admission

In addition to the general requirements for admission to graduate status and for receipt of the M.A. and Ph.D. degrees, the applicant for admission to the Ph.D. program in philosophy should have completed an undergraduate philosophy major, or a sufficiently close equivalent in the judgment of the graduate admissions committee. Exceptions are occasionally made for outstanding students. A full description of the Ph.D. program is available from the department office.

Master of Arts—Philosophy

The graduate program in philosophy is a Ph.D. program. Only in special circumstances will the department accept students whose aim is limited to earning the M.A. degree. However, provision is made within the Ph.D. program for awarding the M.A. degree when the student has demonstrated the requisite level of competence.

To be awarded the M.A. degree, the student must complete the course requirements listed under the Ph.D. program below, and either write an acceptable M.A. thesis or pass a comprehensive examination. Information about the thesis and examination options is available from the department graduate adviser.

Doctor of Philosophy—Philosophy

Logic requirement. Prior to writing the qualifying paper, the student must successfully complete Philosophy 284G. Students may be exempted from this requirement by passing an examination, given only at the time of entrance into the Ph.D. program.

Course and seminar requirement. A total of 14 graduate courses and seminars must be taken for letter grades before the qualifying paper is attempted; undergraduate courses will not fulfill this requirement. Except as noted in (a) below, an independent study course (596) will not count toward this requirement unless special exception is made by both the graduate adviser and the department chair. Among the 14 courses and seminars, the following requirements must be met:

A. History of Philosophy requirement. Three courses (not seminars), chosen from Philosophy 251G, 252G, 253G, 256G, 260G, 261G, 262G, 263G, 264G, 265G, 266A, 295G.

B. An extended term paper, which builds on or is otherwise relevant to previous historical work, must be written for a seminar in the History of Philosophy (297A) or for an independent study course (596), chosen in consultation with the graduate adviser. Either of these courses must be taken for a letter grade.

C. Seminar requirement. Four seminars (not courses) must be taken for letter grades in addition to the seminar or 596 taken to satisfy the History of Philosophy requirement. Special Topics (594) may be included here.

Qualifying paper. This paper is to be original work and should present a philosophical thesis and defend it by argument. No faculty member or committee will be appointed to oversee its writing. The paper is read by all faculty members and is judged by whether or not it demonstrates the student's fitness to write a successful Ph.D. dissertation. A student whose qualifying paper is passed, and who has satisfied the Graduate Division requirements for the M.A., will be awarded the M.A. degree. Deadlines for the paper and other details of the requirement, such as the possibility of submitting a second paper if the first one is failed, are available from the department.

Oral examination. The final step in advancement to candidacy is successful completion of an oral qualifying examination. Information about the nature and scheduling of the oral exam is available from the department.

Dissertation. Satisfactory completion of a dissertation, including an oral defense, is required.

Philosophy Courses

LOWER DIVISION

1. Short Introduction to Philosophy
(4) STAFF
Not open for credit to students who have completed Philosophy 5.

Philosophical ideas in terms of which western civilization seeks to understand itself and the world of which it is a part. (F,W,S)

1HS. Honors Seminar
(4) STAFF
Prerequisites: honors and freshman/sophomore standing.

Introduction to basic views, concepts and methods in philosophy emphasizing the readings of original texts and the writing of philosophical papers.

3. Critical Thinking
(4) STAFF

Practical reasoning, argumentation, and the analysis of language as instruments of sound thinking in everyday life. (F,W,S)

4. Introduction to Ethics
(4) STAFF

An examination, at an introductory level, of such ethical issues as: why be moral, moral relativism, the nature of virtues and vices; and possibly consideration of practical ethical problems such as abortion or war.

6. Business Ethics
(4) STAFF

The course will study important ethical problems that arise in modern business practice in light of traditional theories in moral and political philosophy. Issues such as codes of conduct for business, preferential treatment of minorities, responsibility to the environment, and the morality of strikes by public service personnel will be studied in light of such theories as utilitarian and deontological moral theories, Classical, Liberalism, and Marxism.

7. Biomedical Ethics
(4) STAFF

An examination of philosophical thinking about moral issues raised by the practice of medicine. Traditional ethical theories and problems will serve as background to, and in turn be illuminated by, such issues as informed consent, paternalism, abortion, euthanasia, and genetic engineering.

10. Freshman/Sophomore Seminar
(4) STAFF
Prerequisite: lower-division students only

Course content will vary with different instructors. A specific problem in philosophy will be studied and discussed. Term paper will be required.

21A-B-C. Philosophy and Western Civilization
(4-4-4) STAFF

A multidisciplinary study which emphasizes philosophy as a formative agent and a reflection of the basic concerns and endeavors of western civilization from the classical age of Greece to the twentieth century. (F,W,S)

25. Introduction to Ancient Philosophy
(4) STAFF

This course is an introduction to western philosophy through a study of its origins in the speculative and critical thought of ancient Greek philosophers.

32. Introduction to Existentialism
(4) STAFF

A study of some existentialist writers such as Kierkegaard, Sartre, and Buber.

UPPER DIVISION

With the exception of Philosophy 124, 130, 180, 182, and 183, at least one prior course in philosophy or consent of instructor is required for upper-division courses.

See course description for more specific prerequisites.

Philosophy 100A-100E
(4) STAFF
Prerequisite: upper-division standing, or one prior course in philosophy, or consent of instructor. (These courses do not form a sequence; each may be taken independently of the others.)

The course will examine the fundamental concepts, theories, and problems in the five major areas of western philosophy.

A. Ethics
B. Theory of Knowledge
C. Philosophy of Language
D. Philosophy of Mind
E. Metaphysics

102A-B. Applied Analytical Reasoning
(4-4) DAUER, FORGIE
Prerequisite: Philosophy 3.

A: The development of skills in analyzing material drawn from a variety of philosophical and nonphilosophical concerns. Emphasis will be placed on disambiguating hidden ambiguities, making relevant distinctions, abstracting the central issues, and the analysis of increasingly complex arguments.

B: The study and application of specialized forms of reasoning such as legal reasoning, reasoning concerning means and ends, reasoning involved in problem-solving situations, and scientific and inductive reasoning.

106. Philosophy of Plato
(4) STAFF
Prerequisite: one lower-division philosophy course. Not open to philosophy majors.

An introduction to the philosophy of Plato. For students who wish to study selected Platonic dialogues but who are not philosophy majors.

112. Philosophy of Religion
(4) FORGIE

A study of some of the following topics: religious language, the existence and nature of God, the problem of evil, religious experience, religion and morality, the rationality of religious belief.

115. Religious Philosophers
(4) STAFF
May be repeated up to 12 units with consent of instructor.

A study of the work of religious thinkers such as Augustine, Pascal, and Kierkegaard. Sometimes only one writer, sometimes several writers, will be read.

119. American Philosophy
(4) WILKINS

American philosophy since 1800; idealism, naive realism, critical realism, pragmatism.

120. Advanced Topics in Biomedical Ethics
(4) WILKINS
For majors or nonmajors. May be repeated up to 8 units with consent of instructor.

Topics will include: abortion, euthanasia, medical experimentation, genetic engineering, and debts to future generations.

121. Political Philosophy
(4) WILKINS
Prerequisite: one prior course in philosophy or upper-division standing in political science, or consent of instructor.

Analysis of fundamental political conceptions; the state, sovereignty, political obligation, natural rights, natural law, etc.

122. Theories of Justice
(4) HYLTON
Prerequisite: at least one course in philosophy, or upper-division standing in political science, or consent of the instructor.

An examination, in detail, of one or more influential philosophical theories of justice.

124. Philosophy of Science
(4) WILKINS
Prerequisite: at least one course in philosophy, or a good background in natural science.

Analysis of the interrelated functions of scientific theories, models, laws, experiments, and observational procedures in relation to the goals of explanation, prediction, control, and understanding. Problems of induction and the logic of confirmation.

126. Social Philosophy
(4) MCMAHON
Prerequisite: upper-division standing or at least one prior course in philosophy or consent of instructor.

This course will examine moral problems associated with economic activity: for example, economic justice and the moral basis of property rights.

130. Freedom and Determinism
(4) WILKINS
For nonmajors and majors.

This course concerns the problem of whether human action is free or determined and its implications for whether we are morally responsible for our acts. Readings in authors such as St. Augustine, Jonathan Edwards, Kant, William James, Marx, Freud, and Kenny.

131. Advanced Topics in Applied Ethics
(4) HANSER, WILKINS
Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

132. Existentialism
(4) STAFF
Prerequisite: at least one prior course in philosophy or junior standing or consent of instructor. This course may be repeated up to 8 units with consent of instructor.

A study of some existentialists' writings.

133. History of Political Thought
(4) SEGVIC, WILKINS
Prerequisite: two prior philosophy courses or consent of instructor.

A study of one or more important figures from the history of political thought.

134. Moral Psychology
(4) SEGVIC
Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

An examination of the nature of desires, emotions, the imagination and other aspects of human psychology, and of the ways these bear on the moral evaluation of people and actions.

135. Contemporary Philosophy
(4) STAFF
Prerequisite: Philosophy 100B, 100D or 100E or consent of instructor. May be repeated up to 12 units, with consent of instructor.

136. Aesthetics
(4) STAFF
Prerequisite: at least one prior course in philosophy, or junior standing, or consent of instructor.

Analysis of the aesthetic experience, the aesthetic object, the creative act, and art criticism.

137. Aesthetic Theory
(4) SCHWYZER

A study of some major works in the philosophy of art from Plato to the present, with emphasis on the development and analysis of the basic concepts employed in criticism of the arts.

138. Normative Ethics
(4) MCMAHON
Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

An examination of what makes actions morally right or wrong and people morally good or bad.

139. Meta-ethics
(4) HANSER
Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

An examination of problems concerning the meaning and justification of moral judgments.

140. History of Ethics: Ancient
(4) SEGVIC
Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

A study of one or more important moral philosophers from the ancient period.

141. History of Ethics: Modern
(4) MCMAHON, SEGVIC
Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

A study of one or more important moral philosophers from the modern period (roughly the sixteenth century to the present).

142. Advanced Topics in Philosophy of Religion

(4) FORGIE

Prerequisite: Philosophy 112 or advanced standing in philosophy. May be repeated to a maximum of 8 units with the consent of the instructor.

Advanced topics in the philosophy of religion. Specific subject matter is selected by the instructor and descriptions are available in the department office before each quarter.

143. Philosophy of Law

(4) WILKINS

Prerequisites: Philosophy 3 and either Philosophy 4 or 100A or consent of instructor. Not open to students who have received credit for Philosophy 192.

An introduction to some of the main issues generated by the philosophical question, "What is Law?" 1. In what sense is conduct made obligatory by the existence of law? 2. What, if any, is the relationship between law and morals? 3. What are rules? What does it mean to say that a rule exists? Do courts really apply rules or merely pretend to do so?

144. Advanced Topics in the Philosophy of Law

(4) WILKINS

Prerequisite: Philosophy 100A or two prior philosophy courses or consent of instructor.

145. Punishment and Responsibility

(4) WILKINS

Prerequisites: two prior philosophy courses required, one of which must be from the following: Philosophy 4, 100A, 121, 122, 150A. Not open to students who have received credit for Philosophy 193.

An examination of some of the philosophical problems of punishment and responsibility: the rationale of punishment and the legal doctrine of *mens rea*; the analysis of conditions of responsibility, relations between punishment, responsibility, retribution, guilt, shame, etc.

146A. Philosophy in English and American Literature

(4) STAFF

Prerequisite: upper-division standing, or one prior course in philosophy, or consent of instructor. This course may be repeated up to 8 units with consent of instructor.

This course will be concerned with an analysis of the expression of philosophical ideas in literature and the form and technique used in expressing such ideas. This course is limited to literary works written originally in English.

146B. Philosophy in World Literature

(4) STAFF

Prerequisite: upper-division standing, or one prior course in philosophy, or consent of instructor. This course may be repeated up to 8 units with consent of instructor.

This course will be concerned with an analysis of the expression of philosophical ideas in literature and the form and technique used in expressing such ideas. The emphasis will be on literature written in non-English languages.

149. Action Theory

(4) HANSER

Prerequisite: two upper-division philosophy courses or consent of instructor.

An examination of philosophical topics connected with human action, e.g. the role of intentions and desires in the explanation and justification of action and the nature of practical reason.

150A. Advanced Topics in Ethical Theory

(4) MCMAHON, HANSER

Prerequisites: either (1) Philosophy 100A; or (2) two courses from Philosophy 100B-C-D-E, together with consent of instructor. This course may be repeated up to 12 units with consent of instructor.

150B. Advanced Topics in Theory of Knowledge

(4) DAUER, BRUECKNER

Prerequisites: either (1) Philosophy 100B; or (2) two courses from Philosophy 100A-C-D-E, together with consent of instructor. This course may be repeated up to 8 units with consent of instructor.

150C. Advanced Topics in Philosophy of Language

(4) HYLTON, SALMON

Prerequisites: either (1) Philosophy 100C; or (2) two courses from Philosophy 100A-B-D-E, together with consent of instructor. This course may be repeated up to 8 units with consent of instructor.

150D. Advanced Topics in Philosophy of Mind

(4) FORGIE, SCHWYZER

Prerequisites: either (1) Philosophy 100D; or (2) two courses from Philosophy 100A-B-C-E, together with consent of instructor. This course may be repeated up to 8 units with consent of instructor.

150E. Advanced Topics in Metaphysics

(4) FORGIE, SALMON

Prerequisites: either (1) Philosophy 100E; or (2) two courses from Philosophy 100A-B-C-D, together with consent of instructor. This course may be repeated up to 8 units with consent of instructor.

151. Pre-Socratics

(4) SEGVIC

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

152. Plato

(4) SEGVIC

Prerequisite: two courses from Philosophy 100A-B-C-D-E.

153. Aristotle

(4) SEGVIC

Prerequisite: two courses from Philosophy 100A-B-C-D-E.

160. Descartes

(4) SCHWYZER, FORGIE

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

161. Spinoza

(4) STAFF

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

162. Leibniz

(4) STAFF

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

163. Locke

(4) SCHWYZER

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

164. Berkeley

(4) STAFF

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

165. Hume

(4) DAUER

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

166A-B. Kant

(4-4) SCHWYZER, BRUECKNER

Prerequisites: Philosophy 100B, 100D, or 100E and one course from Philosophy 160-165, or consent of instructor.

An examination of the philosophy of Kant with special attention to the *Critique of Pure Reason*.

168. Nietzsche

(4) SEGVIC

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

170. Wittgenstein

(4) SCHWYZER

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

172. Heidegger

(4) STAFF

Prerequisite: Philosophy 100B, 100D, or 100E or consent of instructor.

173. Frege

(4) STAFF

Prerequisite: Philosophy 100B, 100D, or 100E, or consent of instructor.

An examination of the work of the German philosopher and logician, Gottlob Frege.

174. Early Analytic Philosophy

(4) HANSER, SALMON

Prerequisite: Philosophy 100C, 100D, or 100E or consent of instructor.

A study of one or more major philosophers from the early stages of the analytic tradition (e.g. Frege, Moore, Russell, Wittgenstein, and the Logical Positivists.)

175. Other Philosophers

(4) STAFF

May be repeated up to 12 units with consent of instructor.

Course content will vary. Philosophers not taught in a regular course offering — such philosophers as Plotinus, Bacon, Hobbes, Pascal, Reid, Schopenhauer, Bradley — yet whose work is intrinsically important will be studied. Students may check with the department office for more detailed information before enrolling.

180. Philosophical Psychology

(4) HANSER

Prerequisite: consent of instructor. May be repeated up to 8 units.

An examination of some of the concepts of the mind, such as those of desire, intention, action, perception, sensation, and the unconscious.

183. Beginning Modern Logic

(4) HYLTON, SALMON

Prerequisite: none, except students who have had difficulties with formal material are recommended to take Philosophy 3 prior to this course.

An introduction to the concepts and methods of modern symbolic logic. Emphasis is placed on problems of translating English expressions into logical symbols and on the development of skills in using the formal proof procedures of sentential and predicate logic.

184. Intermediate Modern Logic

(4) HYLTON, SALMON

Prerequisite: Philosophy 183 or equivalent, or consent of instructor.

Further application and development of the predicate calculus, including the calculi of identity and description. An introduction to the metalogical questions of completeness, consistency, and decidability.

185. Advanced Modern Logic

(4) HYLTON, SALMON

Prerequisites: Philosophy 184 or equivalent; or Mathematics 109A, or consent of instructor.

Topics from the theory of formal systems, set theory, recursive function theory, and automata theory.

186. Philosophical Logic

(4) SALMON, HYLTON

Prerequisites: Philosophy 183 and 184, or equivalent, or consent of instructor. May be repeated once for credit.

Topics in logical theory and the philosophy of logic: intensional logics and other non-standard logics (such as modal logic); discussion of results of modern logic and their philosophical implications.

187. Philosophy of Mathematics

(4) STAFF

Prerequisite: Philosophy 183 or equivalent or consent of instructor.

Logistic, formalist, and intuitionist views of the nature of mathematics. Epistemological problems of applied mathematics.

188. Theory of Value

(4) WILKINS, HANSER

189. Philosophical Topics in Feminist Studies

(4) STAFF

Prerequisites: one course from Philosophy 100A-E or Women's Studies 100B; and consent of instructor.

A study of topics of philosophical importance arising from the research and writings of feminists. Topics will vary from quarter to quarter. To see what is being taught in any particular quarter, students should consult the department's Course Outline Booklet.

194. Group Studies in Philosophy
(4) STAFF

Prerequisites: upper-division standing in philosophy and consent of instructor. Enrollment normally limited to 12 or fewer students. Course may be repeated for credit up to 8 units with consent of instructor.

195. Seminar in Classical Philosophy
(4) STAFF

Prerequisites: at least two upper-division courses in philosophy and consent of instructor. May be repeated for a maximum of 12 units.

Intensive reading and discussion of the texts of individual Greek philosophers. Specifics will be available in departmental course list.

196. Senior Honors Seminar
(4) STAFF

Prerequisite: Enrollment limited to senior philosophy majors, by invitation of instructor.

A discussion course centered around a single topic or problem to be announced in advance by the instructor. (F)

197A-B. Senior Honors Thesis
(2-2) STAFF

Prerequisites: enrollment limited to senior philosophy majors; by consent of instructor and departmental approval.

A continuous two-quarter research and writing tutorial designed for senior honors majors. The first term will be spent mainly in selecting and researching a topic for the thesis. The second term will be spent mainly in the writing of the thesis. (W,S)

197P. Senior Project for Majors with Ethics and Public Policy Emphasis
(2-4) STAFF

Prerequisites: upper-division standing in philosophy and consent of the undergraduate adviser. May be repeated up to 8 units with consent of instructor.

A research and writing tutorial in some topic relevant to issues in ethics and public policy. A written proposal of the project must be approved by the undergraduate adviser and the instructor.

197R. Senior Project for Majors with Theory and Practice of Analytical Reasoning Emphasis
(2-4) STAFF

Prerequisites: upper-division standing in philosophy and consent of the undergraduate adviser. May be repeated up to 8 units with consent of instructor.

A research and writing tutorial in the application of analytical reasoning to some practical concern or enterprise. A written proposal of the project must be approved by the undergraduate adviser and the instructor. The project should ideally be based on some work experience or internship.

199. Independent Studies in Philosophy
(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in philosophy. Students are limited to 5 units per quarter. Philosophy 199 may be repeated to a maximum of 12 units. No more than 12 units may be applied to the major.

A written statement of the proposed program of study must be presented to the instructor for his or her approval before the student signs up for the course. (F,W,S)

199RA. Independent Research Assistant
(1-5) STAFF

Prerequisites: students must enroll under instructor number. Students must have attained upper-division standing and have a minimum 3.0 grade-point average for the preceding three quarters. Students are limited to 5 units per quarter.

Coursework shall consist of faculty supervised research.

GRADUATE COURSES

Graduate standing is a Prerequisite for all graduate courses.

All graduate seminars (with the exception of Philosophy 200) may be repeated with consent of the instructor, and may be taken for 1 to 4 units of credit as determined by consultation with the instructor. Specific topics for seminars will be available at the department office at the time registration counseling begins.

200. First-Year Graduate Seminar
(4) STAFF

Prerequisite: enrollment limited to first-year graduate students.

The course is designed to introduce new graduate students to graduate-level work. Topics will depend on the interests of the students and the instructor.

212G. Philosophy of Religion
(1-4) FORGIE

215G. Religious Philosophers
(1-4) STAFF

219G. American Philosophy
(1-4) WILKINS

220G. Topics in Biomedical Ethics
(1-4) WILKINS

221G. Political Philosophy
(1-4) WILKINS

222G. Theories of Justice
(1-4) HYLTON

A study at the graduate level of an examination, in detail, of one or more influential philosophical theories of justice.

224G. Philosophy of Science
(1-4) WILKINS

226G. Social Philosophy
(1-4) MCMAHON

A study at the graduate level of moral problems associated with economic activity, for example, economic justice and the moral basis of property rights.

230G. Freedom and Determinism
(1-4) WILKINS

231G. Advanced Topics in Applied Ethics
(1-4) HANSER, WILKINS

232G. Existentialism
(1-4) STAFF

233G. History of Political Thought
(1-4) SEGVIC, WILKINS

A study of one or more important figures from the history of political thought.

234G. Moral Psychology
(1-4) SEGVIC

An examination of the nature of desires, emotions, the imagination, and other aspects of human psychology, and of the ways these bear on the moral evaluation of people and actions.

235G. Contemporary Philosophy
(1-4) STAFF

236G. Aesthetics
(1-4) STAFF

A study at the graduate level of the aesthetic experience, the aesthetic object, the creative act, and art criticism.

237G. Aesthetic Theory
(1-4) SCHWYZER

A study at the graduate level of the development and analysis of the basic concepts employed in criticism of the arts.

238G. Normative Ethics
(1-4) MCMAHON

An examination of what makes actions morally right or wrong and people morally good or bad.

239G. Meta-ethics
(1-4) HANSER

An examination of problems concerning the meaning and justification of moral judgments.

240G. History of Ethics: Ancient
(1-4) SEGVIC

A study of one or more important moral philosophers from the ancient period.

241G. History of Ethics: Modern
(1-4) MCMAHON, SEGVIC

A study of one or more important moral philosophers from the modern period (roughly the sixteenth century to the present).

242G. Topics in the Philosophy of Religion
(1-4) FORGIE

243G. Philosophy of Law
(1-4) WILKINS

An introduction to some of the main issues generated by the philosophical questions, "What is Law?" 1. In what sense is conduct made obligatory by the existence of law? 2. What, if any, is the relationship between law and morals? 3. What are rules? What does it mean to say that a rule exists? Do courts really apply rules or merely pretend to do so?

244G. Advanced Topics in the Philosophy of Law
(1-4) WILKINS

245G. Punishment and Responsibility
(1-4) WILKINS

An examination of some of the philosophical problems of punishment and responsibility: the rationale of punishment and the legal doctrine of *mens rea*; the analysis of conditions of responsibility, relations between punishment, responsibility, retribution, guilt, shame, etc.

246A. Philosophy in English and American Literature
(1-4) STAFF

A study at the graduate level of the expression of philosophical ideas in literature, and the form and technique used in expressing such ideas. This course is limited to literary works written originally in English.

246B. Philosophy in World Literature
(1-4) STAFF

A study at the graduate level of the expression of philosophical ideas in literature, and the form and technique used in expressing such ideas. The emphasis will be on literature in non-English languages.

249G. Action Theory
(1-4) HANSER

An examination of philosophical topics connected with human action, e.g. the role of intentions and desires in the explanation and justification of action and the nature of practical reason.

250A. Topics in Ethical Theory
(1-4) MCMAHON, HANSER

250B. Topics in Theory of Knowledge
(1-4) DAUER, BRUECKNER

250C. Topics in Philosophy of Language
(1-4) HYLTON, SALMON

250D. Topics in Philosophy of Mind
(1-4) FORGIE, SCHWYZER

250E. Topics in Metaphysics
(1-4) FORGIE, SALMON

251G. Pre-Socratics
(1-4) SEGVIC

252G. Plato
(1-4) SEGVIC

253G. Aristotle
(1-4) SEGVIC

260G. Descartes
(1-4) SCHWYZER

261G. Spinoza
(1-4) STAFF

262G. Leibniz
(1-4) STAFF

263G. Locke
(1-4) STAFF

264G. Berkeley
(1-4) DAUER

265G. Hume
(1-4) DAUER

266A-B. Kant
(1-4) SCHWYZER, BRUECKNER

268G. Nietzsche
(1-4) SEGVIC

270G. Wittgenstein
(1-4) SCHWYZER

272G. Heidegger
(1-4) STAFF

273G. Frege
(1-4) STAFF

An examination of the work of the German philosopher and logician, Gottlob Frege.

274G. Early Analytic Philosophy
(1-4) HANSER, SALMON

A study of one or more major philosophers from the early stages of the analytic tradition (e.g. Frege, Moore, Russell, Wittgenstein, and the Logical Positivists.)

275G. Other Philosophers
(1-4) STAFF

Course content will vary. Philosophers not taught in a regular course or seminar, whose work is considered important, will be studied at the graduate level.

283G. Symbolic Logic
(1-4) HYLTON, SALMON

284G. Advanced Symbolic Logic
(1-4) HYLTON, SALMON

285G. Mathematical Logic
(1-4) HYLTON, SALMON

286G. Philosophical Logic
(1-4) SALMON, HYLTON

Prerequisites: Philosophy 183 and 184, or equivalent, or consent of instructor.

Topics in logical theory and the philosophy of logic: intensional logic and other non-standard logics (such as modal logic); discussion of results of modern logic and their philosophical implications.

287G. Philosophy of Mathematics
(1-4) STAFF

A study at the graduate level of selected problems in the philosophy of mathematics.

288G. Theory of Value
(1-4) WILKINS

289G. Philosophical Topics in Feminist Studies
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

A study at the graduate level of topics of philosophical importance arising from the research and writings of feminists.

295G. Topics in Classical Philosophy
(1-4) STAFF

296A. Seminar in Ethics
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

296B. Seminar in Epistemology
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

296C. Seminar in the Philosophy of Language
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

296D. Seminar in the Philosophy of Mind
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

296E. Seminar in Metaphysics
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

297A. Seminar in the History of Philosophy
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

297B. Seminar on Contemporary Figures in Philosophy
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

298A. Seminar in Aesthetics
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

298B. Seminar on Problems in Legal and Political Philosophy
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

299A. Seminar in the Philosophy of Logic
(1-4) STAFF

Prerequisite: graduate standing or consent of instructor.

500. Apprentice Teaching in Philosophy
(2-4) STAFF

Prerequisite: teaching assistantship in philosophy. No unit credit allowed toward degree.

A teaching practicum involving the study and development of effective teaching techniques in philosophy. Each student will be responsible for and teach a class section in an undergraduate course in philosophy. One meeting per week with instructor and one or more discussion section meetings, and attendance in the lecture of the assigned course are required.

501. Teaching Assistant Training
(2) STAFF

Prerequisite: teaching assistant in philosophy. No unit credit allowed toward degree.

Instructional training. Orientation in professional conduct and responsibilities; observation of student's teaching (in the form of faculty visits or videotaping) and follow-up conferences; discussion of teaching evaluations and workshops on pedagogical problems.

505. Philosophical English for Foreign Students
(1-6) STAFF

Prerequisites: foreign graduate student in philosophy. Either (a) passing English Language Placement Examination at a level where English as a Second Language classes are not required; or (b) successful completion of ESL required classes; or (c) concurrent enrollment in required ESL classes.

This course is designed to familiarize foreign graduate students with the style and terminology of the English language as used in philosophical classics and contemporary journal articles and to write papers on them. The course will have a philosophical as well as a language training component.

594. Special Topics
(1-4) STAFF

Prerequisite: consent of instructor.

Special seminar on research subjects of current interest.

596. Directed Reading and Research
(1-12) STAFF

Prerequisites: graduate student in philosophy; consent of instructor.

A written proposal must be approved by the instructor and the department chair.

597. Individual Study for Master's and/or Ph.D. Examinations for Advancement to Candidacy
(1-12) STAFF

No unit credit allowed toward degree.

Individual preparation for the doctoral qualifying examination.

598. Master's Thesis Research and Preparation
(1-12) STAFF

No unit credit allowed toward degree.

This course is reserved for research and writing of the master's thesis.

599. Ph.D. Dissertation Research and Preparation
(1-12) STAFF

Physical Activities

Department of Physical Activities,
Division of Social Sciences,
Robertson Gymnasium 1001;
Telephone (805) 893-2181
Director: Jon A. Spaventa
Assistant Director: Arthur J. Aldritt

Faculty

Arthur J. Aldritt, M.A., UC Berkeley, Supervisor *(coaching certification admini-stration, gymnastics, swimming, tennis)*

Mircea Badulescu, M.A., Institute of Physical Education and Sport, Bucharest, Romania, Lecturer *(gymnastics)*

Duncan Blair, M.Ed., University of Missouri, Lecturer *(basketball, swimming, tennis, weight training)*

Newell D. Breyfogle, M.A., University of Iowa, Supervisor Emeritus

Ernest Carter, Ed.D., UC Los Angeles, Supervisor Emeritus

Susan Ceriale, M.A., California State University, San Diego, Lecturer *(first aid/CPR, exercise physiology, wellness/fitness admini-stration)*

Judith E. Dale, M.A., UC Santa Barbara, Lecturer *(club sports administration, officiating, sports sociology)*

Alfred J. Ferrer, M.A., California State University, Chico, Lecturer *(baseball, weight training)*

Mark S. French, M.A., University of the Pacific, Lecturer *(basketball, weight training)*

Arthur J. Gallon, Ed.D., UC Berkeley, Supervisor Emeritus

Art R. Gilbert, M.A., UC Santa Barbara, Lecturer *(badminton, golf, nutrition, wellness and fitness administration)*

Kathleen M. Gregory, B.A., California State University, Los Angeles, Lecturer *(badminton, volleyball)*

Willard M. Hammer, Ed.D., University of Oregon, Supervisor Emeritus

Wayne N. Horodowich, M.S., University of Oregon, Lecturer *(leadership training/team building, outdoor recreation administration)*

Mayville S. Kelliher, Ed.D., University of Oregon, Supervisor Emeritus

Peter A. Kirkwood, B.A., California State University, Bakersfield, Lecturer *(tennis, weight training)*

Paul K. Lee, B.A., California State University, Fresno, Lecturer *(intramural sports administration)*

Michael Lewis, M.A., UC Santa Barbara, Lecturer *(diving, aquatics)*

Lian Kang Lu, Ph.D., Peking Physical and Cultural University, Lecturer *(volleyball)*

Dave Lochbaum, M.S., Illinois State University, Lecturer*(intramural sports)*

Lex J. Murray, M.A., University or Arizona, Lecturer *(cycling, golf, physical fitness, sports psychology)*

Aprile L. Peishel, M.A., California State University, San Diego, Lecturer *(aerobics/fitness certification, administration)*

Jerry Pimm, M.S., University of Southern California, Lecturer *(basketball)*

Richard C. Powell, M.S., California State University, San Diego, Lecturer *(first aid/CPR, substance abuse, tennis, triathlon)*

Kenneth A. Preston, M.S., California Polytechnic University, San Luis Obispo, Lecturer *(golf, tennis, volleyball)*

James A. Romeo, M.Ed., Springfield College, Lecturer (*applied kinesiology, medical aspects, recreation administration*)

Peter L. Snyder, M.A., Stanford University, Lecturer *(first aid/CPR, aquatics, water polo)*

Jon A. Spaventa, M.Ed., Springfield College, Lecturer (*administration, movement education, sports psychology*)

F. Patricia Stock, M.S., University of Oregon, Supervisor Emerita

Gregg Wilson, M.A., UC Berkeley, Lecturer *(aquatics administration, swimming)*

Wilton M. Wilton, Ed.D., UC Los Angeles, Supervisor Emeritus

The Department of Physical Activities offers courses designed to contribute to the development and maintenance of physical fitness, courses designed to develop recreational skills, and professional courses leading to the Athletic Coaching Program Certification and Fitness Certification in Aerobic Dance Conditioning. Physical activities courses are offered at the elementary, intermediate, and advanced levels and may be taken only once for credit. Courses in the "1-" series with the "Intercollegiate" designation in the title may be repeated up to 12 times for a total of 6 units, on a passed/not passed basis only. No more than 6 units of "1-" courses may be counted toward degree requirements.

A physical examination performed by a private physician is recommended for any student intending to enroll in physical activities courses.

Fines are imposed by the department for failure to return equipment or clothing on or before the date posted for such return at the end of each quarter, and for failure to close out lockers at the end of each quarter.

Program in Athletic Coaching

The Department of Physical Activities offers the 30-unit Certification Program in Athletic Coaching. The program is primarily designed for those interested in coaching at the secondary or college levels, but is also appropriate for coaching youth sports.

Students who wish to enroll in the program must consult with the coaching adviser. Specific details concerning State of California and University of California requirements for the teaching credential are available from the credential adviser in the Graduate School of Education.

The basic core requirement consists of 25-27 units. Remaining units are selected from physical activities offerings, with direction from the adviser.

Preparation for Athletic Coaching Program. A course in psychology and a course in communication are recommended.

Required core courses. Physical Activities 5A, 130A, 130C, 149, 150, 170 series (two courses), 180 and/or 392. Students should consult with the coaching adviser about elective courses.

Program in Fitness (Aerobic Dance Conditioning)

The Fitness Certification Program in Aerobic Dance Conditioning is comprised of 20 1/2 units of coursework in anatomy, exercise physiology, first aid and CPR, kinesiology, nutrition, and teaching methodology.

The program is designed for those interested in developing the knowledge, skills, and practical experience necessary for employment within the exercise/fitness field. The Fitness Certification Program is pursued in addition to standard degree program requirements, and may dictate moderate increases in overall units needed for graduation. At least 166 (in some cases 162) units from the Letters and Science List of Courses are required toward overall degree requirements. See the certification adviser for specific details.

Preparation for Fitness Certification Program. Communication Studies 11 and PAA 4A are recommended.

Required core courses. Physical Activities 1-10A-B-C; PAA 5A, 101, 149, 150, 175A, and 180. Students should consult with the program coordinator prior to enrollment.

Physical Activities Courses

LOWER DIVISION

The physical activities listed below are designed to provide a basic program by which students may improve their physical condition, secure useful neuro-muscular development, and gain recreational skills.

Classes meet two periods weekly and provide instruction and supervised practice in the fundamentals of each activity.

Prerequisites: for all A-B-C courses, A is Prerequisite to B, and B is Prerequisite to C; or consent of instructor.

Courses with a $ prefix have a special fee charged for use of equipment and facilities not owned by the university. Direct payment will be made by the student.

1-1A-B-C. Rowing
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-2. Intercollegiate Baseball
(1/2) STAFF
Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-3A-B-C. Archery
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-4A-B-C. Badminton
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-5A-B-C. Baseball
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-6A-B-C. Basketball
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

$ 1-7A-B-C. Boating and Sailing
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

$ 1-9A-B-C. Bowling
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-10A-B-C. Aerobic Dance Conditioning
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-11. Intercollegiate Basketball
(1/2) STAFF
Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-12. Cycling Fitness
(1/2) STAFF

$ 1-13A-B-C. Fencing
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-14. Intercollegiate Cross Country
(1/2) STAFF
Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-16A-B-C. Folk Dance
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-17A. Rhythmic Sport Gymnastics
(1/2) STAFF

$ 1-18D. Theatrical Fencing
(1/2) STAFF

1-20. Field Hockey
(1/2) STAFF

1-21. Team Handball
(1/2) STAFF

1-22. Intercollegiate Golf
(1/2) STAFF
Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-23. Intercollegiate Gymnastics
(1/2) STAFF
Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-24A-B-C. Golf
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-25A-B-C. Tumbling and Free Exercise
(1/2-1/2-1/2) STAFF
A: Elementary.
B: Intermediate.
C: Advanced.

1-26A-B-C. Gymnastics Apparatus
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-28. Elementary Orienteering
(1/2) STAFF

1-30A-B-C. Soccer
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-31A-B-C. Softball
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-32. Intercollegiate Softball
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-33. Intercollegiate Swimming
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-34A-B-C. Swimming
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-35A-B-C. Synchronized Swimming
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-36. Jogging Fitness
(1/2) STAFF

1-37. Intercollegiate Tennis
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

$ 1-38A-B-C. Tennis
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-38D. Tournament Tennis
(1/2) STAFF

Prerequisite: Physical Activities 1-38C or consent of instructor. May be repeated for credit up to 6 units.

1-39A-B-C. Track and Field
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-40A-B-C. Volleyball
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-41A-B-C. Water Polo
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-42. Intercollegiate Track and Field
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-43A-B-C. Weight Training
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-43D. Intercollegiate Weight Training
(1/2) STAFF

Prerequisite: consent of instructor. May be repeated to a maximum of 6 units.

1-44A-B-C. Wrestling
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-45. Intercollegiate Water Polo
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-47. Intercollegiate Volleyball
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-48. Intercollegiate Soccer
(1/2) STAFF

Prerequisite: consent of coach. May be repeated to a maximum of 6 units.

1-49A-B-C. Springboard Diving
(1/2-1/2-1/2) STAFF

Prerequisites: consent of instructor is Prerequisite to Physical Activities 1-49A; Physical Activities 1-49A, or equivalent, and instructor's approval is prerequisite to 1-49B; Physical Activities 1-49B, or equivalent, and instructor's approval is prerequisite to 1-49C.

A: Elementary.
B: Intermediate.
C: Advanced.

1-57A-B-C. "Touch" Rugby
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-58A-B-C. Lacrosse
(1/2-1/2-1/2) STAFF

A: Elementary.
B: Intermediate.
C: Advanced.

1-59A-B. Aqua Aerobics
(1/2) STAFF

A: Elementary.
B: Intermediate.

1-60. Fitness Walking
(1/2) STAFF

A course designed to provide an opportunity to enhance cardiovascular conditioning, musculoskeletal strength and endurance, and flexibility. Lifetime fitness is emphasized through the development of proper walking form and technique.

1-99. Lifetime Activities Interest Class
(1/2) STAFF

Prerequisite: consent of instructor. Enrollment not to exceed two sections of 1-99 per quarter. May be repeated to maximum of 6 units.

This class makes it possible for a student to take instruction beyond the elementary, intermediate, and advanced levels of any Physical Activities 1-class.

Advanced Physical Activities Courses

LOWER DIVISION

2. Substance Abuse
(3) POWELL, STAFF

An overview course designed to introduce students to physiological, psychological, and social ramifications of alcohol and drug abuse. Topics such as peer pressure, psychosocial stress, abuse patterns, intervention programs, drug testing, and utilization of local agencies will be discussed.

3. Nutrition, Health, and Fitness
(3) GILBERT, STAFF

This course examines the interdependent relationships between nutrition, health, and fitness. An understanding of nutrition, food selection, proper diet, and lifetime health habits is emphasized.

4A. Life Fitness
(2) STAFF

A course designed toward attaining physical fitness through an understanding and participation in an effective program of physical activities which can be continued throughout life. Emphasis will be placed on activities that contribute toward total health.

4B-C. Life Fitness
(2-2) GILBERT, STAFF

Prerequisites: Physical Activities 4B is prerequisite to 4C. Consent of instructor or department.

A course designed toward attaining physical fitness through an understanding and participation in an effective program of physical activities which can be continued throughout life. Stress will be placed on activities that contribute toward total health.

$ 5A. First Aid and Cardiopulmonary Resuscitation
(3) POWELL, CERIALE, SNYDER, STAFF

Required for coaching and aerobic instructor certification.

The course develops the knowledge for prevention and the skills necessary for administering immediate care to victims of accidents or sudden illness occurring in home and outdoor environments. Also cardiopulmonary resuscitation and personal safety are emphasized. Successful completion may lead to standard first aid and personal safety and CPR certification.

6A-B. Personal Defense
(2-2) STAFF

Prerequisite: Physical Activities 6A is prerequisite to 6B.

A course designed primarily for but not limited to women. Emphasis will be placed on self defense techniques, skills, and "rules of avoidance and safety."

7. Ropes Course: Theory and Practice
(2) HORODOWICH, STAFF

This course will provide the student with the opportunity to learn the philosophical basis for ropes course utilization. The student will physically participate in all aspects of the ropes course in order to relate the theoretical to the practical.

8. Triathlon: Theory and Practice
(2) POWELL, STAFF

Prerequisites: ability to swim, bike, and run.

This course will provide students the opportunity to learn theory and practice methods required of a competitive triathlete. Training techniques, injury prevention, and mental preparation for competition will be emphasized.

30A-B-C. Appreciation of Sports
(2-2-2) DALE, STAFF

Lecture, demonstrations, and selected learning experiences for the general university student leading to an understanding and appreciation of athletics and recreational sports.

32F. Principles of Officiating
(2) DALE, STAFF

The principles, standards, techniques, and rules for officiating team and individual sports popular in the fall.

32W. Principles of Officiating
(2) DALE, STAFF

The principles, standards, techniques, and rules for officiating team and individual sports popular in the winter.

32S. Principles of Officiating
(2) STAFF

The principles, standards, techniques, and rules for officiating team and individual sports popular in the spring and summer.

32E. Principles of Officiating
(2) STAFF, LOCHBAUM

The course focuses on the principles, standards, techniques, and rules of officiating intramural sports. Successful completion may lead to certification for officiating UCSB intramurals.

48. Lifeguard Training and Basic Rescue/Water Safety
(2) LEWIS, SNYDER, WILSON

Prerequisite: Advanced Swimming Proficiency Test.

Successful completion of the course may lead to the American Red Cross Lifeguard Certificate.

49. Water Safety Instruction and Introduction to Health Services Education
(3) LEWIS, SNYDER, WILSON

Prerequisite: Physical Activities 48 or current American Red Cross Lifeguard and Basic Rescue/Water Safety Certification

Includes analysis and performance of swimming skills related to personal and small craft safety; theory and application of methods for organizing and presenting aquatic materials. Satisfactory completion of the course may lead to American Red Cross Water Safety Instructor's Certificate.

98. Reading; Physical Activities, Recreation, Athletics, and Exercise

(1-4) STAFF

Prerequisites: minimum 3.0 grade-point average; 2) consent of instructor or department; 3) 30 units completed. May be repeated for credit to a maximum of 8 units.

Critical review and discussions of selected subjects within physical activities, recreation, athletics, or exercise science.

99. Introduction to Research

(1-4) STAFF

Prerequisites: (1) minimum 3.0 grade-point average; (2) consent of instructor or department; (3) 30 units completed. May be repeated for credit to a maximum of 8 units.

Directed study, oriented towards research to be arranged with individual faculty members. Course offers exceptional students an opportunity to participate in a research or laboratory project on an individual or group basis.

UPPER DIVISION

101. Physiology of Exercise and Conditioning

(3) CERIALE, STAFF

Prerequisite: Zoology 25 and upper-division standing, or consent of instructor. Required for aerobic instructor certification.

Physiological adaptations of the human body to acute and chronic exercise are explored as well as the theoretical background and methods of physical conditioning.

130A. Foundations of Athletics—Problems Related to Athletics Administration

(4) STAFF

Prerequisite: upper-division standing or consent of instructor. Required for a coaching certification.

An introduction to basic problems of management, administration, and organization of interscholastic athletic programs. Particular emphasis is placed on programs as conducted under the jurisdiction of the California Interscholastic Federation.

130C. Foundations of Athletics—Problems Related to Sports Psychology

(4) SPAVENTA, MURRAY

Prerequisite: upper-division standing or consent of instructor. Required for a coaching certification.

The application of data from psychological and related fields as it specifically applies to athletics, coaches, and sports activities. Principles and problems of coaching are examined. Human factors of performance, personality, motivation, learning, and stress are presented.

130D. Foundations of Athletics–Problems Related to Sports and Society

(4) DALE, STAFF

Prerequisite: upper-division standing or consent of instructor.

A course designed to explore the problems relative to sports and society as they affect interscholastic participation and coaching.

136. Movement Education in the Elementary School

(3) SPAVENTA

Prerequisite: upper-division standing or consent of instructor.

An analysis and study of the principles and practices of movement education with emphasis on the development of basic movement skills, sport skills, and games. The course also includes examination and construction of curriculum for grades K-6.

149. Applied Kinesiology

(4) ROMEO

Prerequisites: Zoology 25 and upper-division standing, or consent of instructor. Required for athletic coaching and aerobic instructor certifications.

This course examines anatomical and mechanical fundamentals of human movement as they relate to sport and exercise. The study of structure and function of skeletal muscle and physiology of muscle contraction is included.

150. Medical Aspects of Athletics

(3) ROMEO, STAFF

Prerequisites: Physical Activities 149 and upper-division standing or consent of instructor. Required for an aerobic instructor certification. Required for a coaching certification.

An introduction to the basic concepts and techniques in the prevention, diagnosis, treatment, and rehabilitation of athletic injuries. The practical application for prevention and the therapeutic measures relative to sports activities are examined.

170A-Q. Techniques and Advanced Analysis of Team Sports

Prerequisites: upper-division standing, related physical activity course, or consent of instructor.

The technique of teaching individual and team skills of a variety of team sports and advanced analysis of that sport which is essential to a coach of competitive teams at the interscholastic and college level.

A. Football
B. Basketball
C. Baseball
D. Track and Field
E. Water Polo
F. Swimming and Diving
G. Soccer
H. Gymnastics
I. Volleyball
J. Softball
K. Wrestling
L. Racquet Sports
M. Golf
N. Lacrosse
P. Rowing
Q. Rugby

175A. Methods and Principles of Fitness: Aerobic Dance Conditioning

(3) PEISHEL, STAFF

Prerequisites: Physical Activities 1-10A-B-C and Advanced Physical Activities 101 and 149.

An in-depth analysis of the knowledge and skills needed to plan, teach, and administrate programs in aerobic dance conditioning.

180. Practicum in Physical Activities

(3) ALDRITT, PEISHEL, STAFF

Prerequisites: registered coaching or aerobic instructor certification candidates, senior standing, or consent of instructor. Required for athletic coaching and aerobic instructor certification.

Actual experience in the conduct of activity classes, or athletic teams, under the supervision of an experienced instructor or coach.

193. Internship in Physical Activities, Recreation, Athletics, and Exercise Science

(1-4) STAFF

Prerequisites: (1) 2.5 grade-point average; (2) consent of instructor or department; (3) 84 units completed. Graded P/NP only. May be repeated for credit for a maximum of 4 units.

This course is designed to provide students with the opportunity to obtain practical experience by working under faculty supervision as an intern within the Department of Physical Activities, recreation, athletics, or exercise science areas or for local, state, federal, or private agencies.

199. Independent Studies in Physical Activities

(1-5) STAFF

Prerequisites: upper-division standing. Consent of instructor. Open only to advanced students approved by the coaching certification adviser and faculty members involved. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in physical activities. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

This course provides an opportunity for students in physical activities to pursue a particular area of interest under the guidance of an expert in the field.

GRADUATE COURSE

392. Student Teaching — Coaching

(3-9) ALDRITT, STAFF

Prerequisite: graduate standing or consent of instructor.

A course designed to satisfy the California teaching credential. Available to students accepted in the Graduate School of Education.

Physics

Department of Physics,
Division of Mathematical, Physical, and Life Sciences,
Broida Hall 3019;
Telephone (805) 893-3888
Department Chair: Raymond F. Sawyer

Faculty

Guenter Ahlers, Ph.D., UC Berkeley, Professor *(statistical mechanics—experimental)*

James S. Allen, Ph.D., Massachusetts Institute of Technology, Professor *(condensed matter physics—experimental)*

Robert Antonucci, Ph.D., UC Santa Cruz, Associate Professor *(observational astrophysics—experimental)*

David D. Awschalom, Ph.D., Cornell University, Professor *(condensed matter physics—experimental)*

Paul H. Barrett, Ph.D., UC Berkeley, Professor Emeritus

David O. Caldwell, Ph.D., UC Los Angeles, Professor *(high energy physics—experimental)*

David S. Cannell, Ph.D., Massachusetts Institute of Technology, Professor *(statistical physics—experimental)*

John L. Cardy, Ph.D., Cambridge University, Professor *(particle physics—theoretical)*

Jean Carlson, Ph.D., Cornell University, Assistant Professor *(theoretical condensed matter physics)*

Douglas Eardley, Ph.D., UC Berkeley, Professor *(relativistic astrophysics)*

Robert Eisberg, Ph.D., UC Berkeley, Professor Emeritus

Roger Freedman, Ph.D., Stanford University, Lecturer

José R. Fulco, Ph.D., University of Buenos Aires, Professor *(particle physics—theoretical)*

Steve Giddings, Ph.D., Princeton University, Assistant Professor *(theoretical elementary particle physics)*

Carl Gwinn, Ph.D., Princeton University, Assistant Professor *(experimental astrophysics)*

Elisabeth G. Gwinn, Ph.D., Harvard University, Assistant Professor *(experimental condensed matter physics)*

Paul K. Hansma, Ph.D., UC Berkeley, Professor *(electron tunneling—experimental)*

James B. Hartle, Ph.D., California Institute of Technology, Professor *(relativistic astrophysics—theoretical)*

Alan J. Heeger, Ph.D., UC Berkeley, Professor *(condensed matter physics—experimental)*

Daniel W. Hone, Ph.D., University of Illinois, Professor *(condensed matter physics—theoretical)*

Gary Horowitz, Ph.D., University of Chicago, Professor *(general relativity)*

Vincent Jaccarino, Ph.D., Massachusetts Institute of Technology, Professor Emeritus

Walter Kohn, Ph.D., Harvard University, Professor Emeritus

James S. Langer, Ph.D., University of Birmingham, Professor *(condensed matter physics—theoretical)*

Harold W. Lewis, Ph.D., Harvard University, Professor Emeritus

Philip M. Lubin, Ph.D., UC Berkeley, Associate Professor *(astrophysics and cosmology—experimental)*

Rollin J. Morrison, Ph.D., University of Illinois, Professor *(high energy physics—experimental)*

Harry N. Nelson, Ph.D., Stanford University, Assistant Professor *(elementary particle physics—experimental)*

Stanton J. Peale, Ph.D., Cornell University, Professor *(astrophysics—theoretical)*

Joseph G. Polchinski, Ph.D., UC Berkeley, Professor *(elementary particle physics—theoretical)*

Jeffrey Richman, Ph.D., California Institute of Technology, Assistant Professor *(high energy physics—experimental)*

Francesc Roig, Ph.D., University of Massachusetts, Lecturer

Raymond F. Sawyer, Ph.D., Harvard University, Professor Emeritus

Douglas J. Scalapino, Ph.D., Stanford University, Professor *(condensed matter physics—theoretical)*

Glen E. Schrank, Ph.D., UC Los Angeles, Associate Professor Emeritus

Robert Schrieffer, Ph.D., University of Illinois, Professor Emeritus

Mark Sherwin, Ph.D., UC Berkeley, Assistant Professor *(condensed matter—experimental)*

Mark Srednicki, Ph.D., Stanford University, Professor *(particle physics—theoretical)*

Andrew E. Strominger, Ph.D., Massachusetts Institute of Technology, Professor *(particle physics—theoretical)*

Christopher W. Stubbs, Ph.D., University of Washington, Assistant Professor *(astrophysics—experimental)*

Robert L. Sugar, Ph.D., Princeton University, Professor *(particle physics—theoretical)*

William C. Walker, Ph.D., University of Southern California, Professor Emeritus

Michael S. Witherell, Ph.D., University of Wisconsin, Professor *(high energy physics—experimental)*

Fred Wudl, Ph.D., UC Los Angeles, Professor *(materials science—experimental)*

Steven J. Yellin, Ph.D., California Institute of Technology, Professor in Residence *(high energy physics—experimental)*

Anthony Zee, Ph.D., Harvard University, Professor *(particle physics—theoretical)*

Affiliated Faculty

Horia Metiu, Ph.D. (Chemistry)

Philip Pincus, Ph.D. (Materials)

Cyrus R. Safinya, Ph.D. (Materials)

The physics major provides the foundations for careers in basic and applied physics; in interdisciplinary areas such as astronomy, biophysics, environmental science, oceanography, and scientific instrumen-tation; and in economics, law, and medicine.

The Department of Physics offers undergraduate programs leading to either the B.S. or the B.A. degree, and a graduate program leading to a Ph.D. in physics. The Bachelor of Science degree requires a number of electives which may be taken according to the particular aims of the student, after consultation with a faculty adviser. It is designed to provide basic preparation for graduate school in physics, another physical science, or engineering, or for work in industry or a research laboratory. The Bachelor of Arts degree aims at providing students with a basic knowledge of the physical sciences that can be applied to a career in the natural or behavioral sciences, economics, or to further study in a professional school.

Students are assigned faculty advisers at the beginning of each academic year; it is the student's responsibility to meet with the adviser to plan a major program. Transfer students must consult the appropriate adviser as soon as possible.

A "Research Opportunities" booklet, which lists the faculty and their current research, is available from the department.

After completing specific prerequisites, students with a bachelor's degree in physics are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Prizes and awards. The Arnold T. Nordsieck Prize is awarded each year to an outstanding senior who has demonstrated notable promise in research. Two DuPont Prizes are awarded annually: one to the physics major designated as the outstanding senior and one to the outstanding teaching assistant. The David S. Saxon Award is presented each year for excellent academic performance and evidence of future promise in physics.

Physics Honors Program

The physics department has special opportunities for good students at both the lower-division and the senior level. Honors discussion sections for Physics 1H, 2H, 3H, 4H, and 5H are taught by the faculty in association with the freshman/sophomore course Physics 1-5. Special honors laboratory courses (Physics 3HL, 4HL, and 5HL) require unusual creativity and are available for a few students each year. Physics 142L, 143L, and 145L are available to qualified seniors. All of the honors courses require the consent of the instructor and qualify for the College of Letters and Science Honors Program.

Senior Honors Program

The physics senior honors program is available for students with at least a 3.5 grade-point average and is arranged with the help of the senior honors adviser at the beginning of the senior year. This program is based on one or more of the following courses: Physics 142L, 143L, 145L, 194, 198, and 199. The student prepares a written report and presents a seminar on his or her work.

Cooperative Program—Physics and Nuclear Engineering

For physics students who are interested in an industrial career, one option which may be of interest is a five-year program leading to a B.S. degree in physics and a B.S. degree in nuclear engineering. Students are advised to apply for simultaneous registration in the College of Letters and Science and the College of Engineering, in order to complete the degree programs in both physics and engineering.

Undergraduate Program

Undergraduate advising. Prior to registration for the fall quarter each year, all physics majors must make an appointment with the appropriate physics adviser. The advisers' names may be obtained at the Department of Physics, Broida Hall 3019, or by calling 893-3888. Before meeting with the adviser, each student must pick up the appropriate B.S./B.A. advising form from the department office. This form must be filled out and signed by the adviser before the student can register as a physics major. One copy of the form will be given to the student for future reference; a second copy will remain on file in the department office.

Bachelor of Science—Physics

Preparation for the major. The following courses should be completed in the first two years: Physics 1, 2, 3, 4, 5, 3L, 4L, 5L; Mathematics 3A-B-C, 5A-B-C; Chemistry 1A-B-C (or Chemistry 1A-2B-2C). The adviser can suggest a course schedule for freshmen.

Upper-division major. Fifty-six upper-division units are required for the B.S. degree in physics, including Physics 100A-B, 105A-B, 110A-B-C, 115A-B, 118, and 128A-B. Also required are 15 additional units of upper-division physics electives, of which no more than 10 units may be earned in laboratory courses. With the consent of the department chair, 4 units of upper-division mathematics may be substituted toward the elective requirement. In order to satisfy prerequisites for those courses, which are normally taken in the senior year, students should include 100A-B, 105A-B, 115A-B, and 118 in their junior year program.

Note: All B.S. candidates are required (1) to fulfill the General Education requirements of the College of Letters and Science for the B.S. degree; (2) to have their lower- and upper-division programs approved by the physics faculty adviser during the first quarter in which they have declared their major and subsequently once each *year prior to enrollment; and (3) to maintain a C average in the major. Students who do not maintain a G.P.A. of 2.0 in upper-division physics courses will be subject to dismissal from the major. (See major requirements section of this catalog.)*

Bachelor of Arts—Physics

Preparation for the major. The following courses should be completed in the first two years, for a total of 49 units: Physics 1, 2, 3, 4, 5, 3L, 4L, 5L; Mathematics 3A-B-C, 5A-B-C; Chemistry 1A-B-C (or Chemistry 1A-2B-2C). A suggested course schedule for freshmen is available from the faculty adviser.

Upper-division major. Forty-two upper-division units are required for the B.A. degree, including 30 units of upper-division physics courses and 12 units of mathematics, science, or engineering electives approved by a faculty adviser. Of the 30 upper-division units in physics, 6 must be upper-division laboratory.

Note: All B.A. candidates are required (1) to fulfill the General Education requirements of the College of Letters and Science for the B.A. degree; (2) to have their lower- and upper-division programs approved by the physics faculty adviser during the first quarter in which they have declared their major and subsequently once each year prior to enrollment; and (3) to maintain a C average in the major. Students who do not maintain a G.P.A. of 2.0 in upper-division physics courses will be subject to dismissal from the major. (See major requirements section of this catalog.)

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university requirements described in the chapter "Graduate Education at UCSB."

Master of Arts—Physics

The Department of Physics does not offer a terminal M.A. program. Admission is to the Ph.D. program only. Master's degrees may be awarded only in the case of students who leave the Ph.D. program or for continuing students advanced to candidacy for the Ph.D. program who request the M.A. degree.

The requirements for the M.A. are (1) completion of 45 quarter-units of work, with a minimum of 32 units of graduate-level courses and the rest approved by the student's academic advisory committee; and (2) successful completion of an M.A. examination administered by the student's graduate advisory committee. (Successful completion of the advancement to candidacy exam fulfills this requirement).

Doctor of Philosophy—Physics

Admission

A candidate for admission to the Ph.D. program must present an undergraduate degree in physics, or its equivalent, and Graduate Record Examination (GRE) scores in the verbal, quantitative, and analytical sections as well as the Advanced Subject in physics. A program to admit exceptionally qualified first-year students as research assistants, particularly in experimental physics, has been implemented. Further information on the program, and a description of current research, is contained in the publication Graduate Study and Research in Physics, which is available from the department.

Degree Requirements

Every student will have an academic advisory committee which supervises the student's graduate education, providing guidance and examinations.

First-year students will be required to pass the following graduate physics courses with a grade of B^- or better: 205 (classical mechanics), 210A-B (electromagnetic theory), 215A-B-C (quantum mechanics), and 219 (statistical mechanics). The advisory committee can exempt students from taking a normal required course, or may require other courses in addition to those listed here. In addition, theoretical physics students must complete a minimum of five advanced graduate courses and experimental physics students must complete a minimum of three advanced graduate courses with a grade of B or better. At least one of these courses must be in an area clearly distinct from the student's field of specialization — such a determination will be made by the academic advisory committee. Exams will include, but are not limited to, an oral advancement to candidacy exam, normally taken during the second year, and an oral dissertation defense of a research-based thesis.

The final period of graduate study is primarily directed toward individual research and the preparation of a dissertation. Research, either experimental or theoretical, is conducted under the supervision of a faculty member, normally in an area related to his or her own field of specialization.

Astronomy Courses

LOWER DIVISION

1. Basic Astronomy
(4) STAFF

A survey of the development of astronomy with an emphasis on understanding the observable properties of the solar system, the sun and other stars, our own and other galaxies, and the entire universe. Topics of current interest will be discussed as time permits. (F,W,S)

2. History of the Universe
(4) STAFF
Prerequisite: Astronomy 1.

The content will vary with the professor and student interests. Course has included modern extragalactic astronomy and cosmology, quasars, active galactic nuclei, dark matter, gravitational lenses, the early universe, the origins of life, and the possibility of extraterrestrial intelligence.

Physics Courses

LOWER DIVISION

1. Basic Physics
(4) STAFF
Prerequisite: Mathematics 3A or equivalent.

Classical mechanics, kinematics, vectors, Newton's laws, work and energy, conservation laws, momentum and collisions. (W)

1H. Honors Supplement to Basic Physics (Mechanics)
(1) STAFF
Prerequisite: students must have a Math SAT score above 700.

A supplement ot Physics 1 emphasizing fundamental concepts and possibly additional topics in physics. Intended for highly motivated and well prepared students.

2. Basic Physics
(4) STAFF
Prerequisites: Physics 1 and Mathematics 3A-B or equivalent.

Second course in calculus-based sequence for physical science and engineering majors. Rotational motion, conservation of angular momentum, gravitation, static equilibrium, electrostatics, electrostatic field and potential Gauss's law, capacitance, DC circuits.

2H. Honors Supplement to Basic Physics (Mechanics and Electrostatics)
(1) STAFF
Prerequisite: students must maintain at least a B^+ average in Physics 2.

A supplement to Physics 2 emphasizing fundamental concepts and possibly additional topics and physics. Intended for highly motivated and well prepared students.

3. Basic Physics
(3) STAFF
Prerequisites: Physics 2, and Mathematics 3A-B-C or equivalent, concurrent enrollment in Physics 3L. (Recommended Mathematics 5A be taken concurrently.)

Magnetism, Biot-Savart law, Ampere's and Faraday's laws, Maxwell's equations, simple harmonic motion, A.C circuits, wave motion, electromagnetic waves. (F)

3H. Honors Supplement to Basic Physics (Electromagnetism and Waves)
(1) STAFF
Prerequisite: students must maintain at least a B^+ average in Physics 3.

A supplement to Physics 3 emphasizing fundamental concepts and possibly additional topics in physics. Intended for highly motivated and well prepared students.

3HL. Introduction to Experimental Physics
(2) STAFF
Prerequisite: consent of instructor. Must be taken concurrently with Physics 3H.

Laboratory course focusing on using the experimental method to explore physical phenomena and to discover the specific mathematical laws describing them. Students are expected to carry out and interpret their own experiments. Three reports in the form of short papers are required.

3L. Physics Laboratory
(1) STAFF
Prerequisite: concurrent enrollment in Physics 3.

Introductory laboratory emphasizing experiments in electromagnetism.

4. Basic Physics
(3) STAFF
Prerequisites: Physics 3 and concurrent enrollment in Physics 4L. (Recommended Mathematics 5B be taken concurrently.)

Optics (reflection, refraction, interference, polarization, diffraction), special relativity, quantum physics. (W)

4H. Honors Supplement to Basic Physics (Optics and Modern Physics)
(1) STAFF
Prerequisite: students must maintain at least a B^+ average in Physics 4.

A supplement to Physic 4 emphasizing fundamental concepts and possibly additional topics in physics. Intended for highly motivated and well prepared students.

4HL. Experimental Physics
(2) STAFF
Prerequisites: Physics 3HL and consent of instructor. Must be taken concurrently with Physics 4H.

Laboratory course focusing on the art and science of experimentation. Each student will design experiments to measure well-defined physical quantities and build, borrow or assemble the necessary apparatus. A research paper presenting the method, results and conclusions, will be required for each experiment.

4L. Physics Laboratory
(1) STAFF
Prerequisite: concurrent enrollment in Physics 4.
Introductory laboratory emphasizing wave motion and optics.

5. Basic Physics
(3) STAFF
Prerequisites: Physics 4 and concurrent enrollment in Physics 5L. (Recommended Mathematics 5C be taken concurrently.)
Kinetic theory, thermodynamics, fluids, sound, solids. (S)

5H. Honors Supplement to Basic Physics (Thermodynamic and Kinetic Theory)
(1) STAFF
Prerequisite: students must maintain at least a B⁺ average in Physics 5.
A supplement to Physics 5 emphasizing fundamental concepts and possibly additional topics in physics. Intended for highly motivated and well prepared students.

5HL. Experimental Physics
(2) STAFF
Prerequisite: Physics 4HL and consent of instructor. Must be taken concurrently with Physics 5H.
Laboratory course focusing on the art and science of experimentation. Each student will design experiments to measure well-defined physical quantities and build, borrow, or assemble the necessary apparatus. A research paper presenting the method, results and conclusions, together with an oral presentation, will be required for each experiment.

5L. Physics Laboratory
(1) STAFF
Prerequisites: Physics 4; concurrent enrollment in Physics 5.
Introductory laboratory emphasizing atomic, molecular, and condensed matter physics.

6A-B-C. Introductory Physics
(3-3-3) STAFF
Prerequisite: one quarter of calculus (may be taken concurrently).
A: Mechanics. (F,W)
B: Heat, thermodynamics, electricity, and magnetism. (W,S)
C: Electromagnetic waves, optics, modern physics. (S)

6AL. Introductory Experimental Physics
(1) STAFF
Prerequisites: concurrent enrollment in Physics 6A or consent of instructor.
Self directed laboratory course where students seek to discover simple mathematical descriptions to laws governing various physical phenomena. Each student is responsible for deciding what to measure, how to measure it, and what interpretation can be placed on the results.

6BL. Introductory Experimental Physics
(1) STAFF
Prerequisite: concurrent enrollment in Physics 6B or consent of instructor.
Experiments in the mechanical, electrical, and thermal properties of matter, the behavior of light, and quantum phenomena with application to the biological sciences.

6CL. Introductory Experimental Physics
(1) STAFF
Prerequisite: concurrent enrollment in Physics 6C or consent of instructor.
Experiments in the mechanical, electrical, and thermal properties of matter, the behavior of light, and quantum phenomena with application to the biological sciences.

10. Concepts of Physics
(4) STAFF
Not open for degree credit to students who have completed Natural Science 1A.
A survey of important concepts in physics for the nonscience major. The contents will vary depending on the interests of the students and instructor. (W,S)

UPPER DIVISION

A grade of C or higher is required to satisfy the prerequisites for all upper-division courses. In series of courses, such as Physics 105A-B, the earlier courses are considered prerequisites for the later ones. Exceptions will be made only with the consent of the instructor.

100A-B. Methods of Theoretical Physics
(3-3) STAFF
Prerequisites: Mathematics 5C or equivalent for Physics 100A; Physics 100A for Physics 100B.
Mathematical methods in physics: theory of functions of complex variables, Fourier series, integral transforms, partial differential equations of physics, boundary value problems, Legendre and Bessel functions. Introduction to Hilbert spaces. (F,W)

105A-B. Classical Mechanics
(3-3) STAFF
Prerequisites: Physics 5 and concurrent enrollment in Mathematics 5B or its equivalent.
Dynamics of a particle and systems of particles. Harmonic oscillator. Curvilinear coordinates. Central force motion. Scattering. Elementary rigid body motion. Moving coordinate systems. Lagrange's equations and generalized coordinates. Forces of constraint. Rigid body rotation. Small vibrations and normal modes. Hamilton's equations.

110A-B-C. Electromagnetism
(4-4-4) STAFF
Prerequisites: Physics 5 and concurrent enrollment in Mathematics 5C or its equivalent.
Electrostatics, magnetostatics, electric and magnetic properties of materials, Maxwell's equations, electromagnetic waves, radiation from charged particles, special relativity. (F,W,S)

115A-B. Quantum Mechanics
(4-4) STAFF
Prerequisites: Physics 5; Physics 100A or Mathematics 124A (may be taken concurrently) or equivalent.
Inadequacies of classical physics and quantum mechanical resolutions. The postulates of quantum mechanics. Schroedinger's equation and illustrative solutions. Measurements, operators, and observables. Angular momentum, spin, and one-electron atoms. Introduction to perturbation theory. The exclusion principle, multi-electron atoms, and the chemical structure of the elements. (F,W)

115C. Advanced Topics in Quantum Mechanics
(4) STAFF
Prerequisites: Physics 115B; Physics 100B or Mathematics 124B or equivalent.
Scattering theory. Time dependent and time independent perturbation theory and other approximate methods. Applications to nuclear, atomic, and molecular physics. (S)

115AG-BG. Quantum Mechanics
(4-4) STAFF
Prerequisite: open only by consent of the physics graduate adviser to graduate students who have not taken Physics 115A-B, or the respective parts thereof in this institution.
Same description as Physics 115A-B.

115CG. Advanced Topics in Quantum Mechanics
(4) STAFF
Prerequisite: open only by consent of the physics graduate advisor to graduate students who have not taken Physics 115C, or the respective part thereof in this institution.
Same description as Physics 115C.

118. Thermodynamics
(3) STAFF
Prerequisites: Physics 5 and concurrent enrollment in Mathematics 5C or its equivalent.
Thermodynamics: Three laws of thermodynamics, phase diagrams, entropy, equipartition of energy, specific heat, reversible and irreversible processes. Kinetic theory: Maxwell-Boltzmann distribution, pressure, viscosity, thermal conductivity, diffusion. (F)

119. Statistical Mechanics and Thermodynamics
(4) STAFF
Prerequisite: Physics 5.
Kinetic theory of statistical ensembles. Boltzmann, Fermi-Dirac, and Bose-Einstein distribution laws. Relation of thermodynamic variables and microscopic properties. (S)

119G. Statistical Mechanics and Thermodynamics
(4) STAFF
Prerequisite: open only by consent of the physics graduate adviser to graduate students who have not taken Physics 119, or the respective part thereof in this institution.
Same description as Physics 119. (S)

123A-B. Condensed Matter Physics
(4-4) STAFF
Prerequisite: Physics 115A.
Classification of solids; crystal symmetry, thermal electric and magnetic properties; metals, semiconductors, and the band theory of electronic states; magnetic resonance; superconductivity; imperfections. Emphasis will be placed on both fundamental and applied aspects. (F,W)

123AG-BG. Condensed Matter Physics
(4-4) STAFF
Prerequisites: Physics 115A or 115AG. Open only by consent of the physics graduate adviser to graduate students who have not taken Physics 123A-B or the respective parts.
Same description as Physics 123A-B. (F,W)

125. Elementary Particle Physics
(4) STAFF
Prerequisite: Physics 115B.
Introduction to quarks and leptons and the phenomenology of the particles they comprise; fundamental symmetries, invariance principles, and the associated quantum numbers, strong, electromagnetic and weak interactions and their relationship.

125G. Elementary Particle Physics
(4) STAFF
Prerequisite: open only to graduate students with the consent of the physics graduate adviser.
Same description as Physics 125. (S)

126. Plasma Physics
(4) STAFF
Prerequisites: Physics 110A-B-C (110C may be taken concurrently).
Introduction to the physics of the fully ionized gas. Motion of charged particles in electric and magnetic fields, magnetohydrodynamics, equilibrium plasma configurations and their stability, waves in plasmas. Examples selected from the space and astrophysical sciences and controlled fusion research.

127A. Analog Electronics
(3) STAFF
Prerequisites: Six units of calculus and six units of physics.
Passive circuits, diodes, transistors, field effect transistors, operational amplifiers, feedback and control. Design, building and testing of analog circuits.

127AG. Analog Electronics
(3) STAFF
Prerequisites: open only to graduate students with consent of physics graduate advisor.
Same description as Physics 127A.

127B. Digital Electronics
(3) STAFF
Prerequisite: Six units of calculus and six units of physics.
Gates, combinational and sequential logic, multiplexes, counters, shift registers, memory and microprocessors. Design, building and testing of digital circuitry, including a modern microprocessor based computer system.

127BG. Digital Electronics
(3) STAFF
Prerequisites: open only to graduate students with consent of physics graduate advisor.
Same description as Physics 127B.

128A-B. Advanced Experimental Physics
(3-3) STAFF

Prerequisite: Physics 115B.

Selected experiments in contemporary physics, e.g., holography, laser light scattering zeeman effect, x-rays, superconductivity, magnetic resonance, Mossbauer effect.

129. Computer Interfacing

(4) STAFF

Prerequisites: six units of physics and six units of calculus. Not open to graduate students.

Use of personal computer for control and measurement in a hands on project oriented environment. Introduction to a real time multitasking operating system and the C programming language. Basic feedback control theory.

129G. Computer Interfacing

(4) STAFF

Prerequisite: open only to graduate students with consent from the physics graduate advisor.

Same description as Physics 129.

131. Gravitation and Relativity

(4) STAFF

Prerequisites: Physics 105A-B (105B may be taken concurrently only with the consent of the instructor).

An introduction to Einstein's general relativity. The spacetime of special relativity, the principle of equivalence, gravity as geometry, the description of spacetime geometry, the spacetime of a relativistic star, solar system tests of general relativity, gravitational collapse, black holes, cosmology. (S)

133. Astrophysics

(4) STAFF

Prerequisites: completion of the lower-division Prerequisite courses for the physics or engineering majors, or consent of instructor.

Topics will vary with the instructor, e.g., stellar structure and evolution, origin of the elements, formation of planets, introductory cosmology, neutron stars, or other topics of particular interest to the instructor and students. (W)

133G. Astrophysics

(4) STAFF

Prerequisite: open only by consent of the physics graduate adviser to graduate students who have not taken Physics 133.

Same description as Physics 133.

134. Observational Astrophysics

(4) STAFF

Physics 5 and 133 recommended.

Techniques and implementation of observational methods in astronomy/astrophysics. Sensors, digital-image processing and analysis, research projects with computer-controlled remote access telescope using a digital image sensor. Studies of variable stars, galaxy morphology, supernova, etc.

141. Optics

(4) STAFF

Prerequisite: Physics 5.

Modern geometrical and physical optics. Polarization, coherence, interference, and diffraction phenomena. Fourier transform spectroscopy, intensity correlation interferometry, spatial filtering, and holography. Selected topics on lasers, light scattering, and quantum optics as time permits.

142HL. Experimental Research in Condensed Matter Physics

(1-4) STAFF

Prerequisites: Physics 5 and consent of instructor. May be repeated for credit to a maximum of 4 units.

Offers qualified undergraduates the opportunity to work in research laboratories in condensed matter physics. It is part of the department and College of Letters and Science honors programs. Each staff member has his/her own course identified by a letter code.

143HL. Experimental Research in Elementary Particle Physics

(1-4) STAFF

Prerequisites: Physics 5 and consent of instructor. May be repeated for credit up to 4 units.

Offers qualified undergraduates the opportunity to work in experimental research in elementary particle physics. It is part of the department and College of Letters and Science honors programs. Each staff member has his/her own course identified by a letter code.

144. Physics of Complex Fluids

(4) STAFF

Prerequisite: Physics 118, Physics 105A-B, and Physics 110A-B.

Introduction to the physics of complex fluids. Topics will include: solution thermodynamics, electrolytes, polymer solutions, collodial dispersions, wetting, surfactants, micellar solutions, liquid crystals, microemulsions, gels, and aggregation phenomena.

145HL. Experimental Research in Astrophysics

(1-4) STAFF

Prerequisites: Physics 5 and consent of instructor. May be repeated for credit to a maximum of four units.

Offers qualified undergraduates the opportunity to work in experimental research in astrophysics. It is part of the department and College of Letters and Science honors programs. Each staff member has his/her own course identified by a letter code.

194. Group Studies for Advanced Students

(1-4) STAFF

Prerequisites: upper-division standing; consent of instructor. Only four units may apply to the major.

Themes will vary according to instructor.

198. Directed Reading

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in physics. Students are limited to five units per quarter and 30 units total in all 198/199 courses combined. No more than 12 units of Physics 198/199 combined may be approved to majors in physics. Consent of instructor required.

Each staff member has own directed reading course identified by a number code listed in the Schedule of Classes. (F,W,S)

199. Independent Studies in Physics

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in physics. Students are limited to five units per quarter and 30 units total in all 198/199 courses combined. Consent of instructor required.

Directed individual study open to qualified seniors in the department. Each staff member has own independent studies course identified by a number code listed in the *Schedule of Classes*. (F,W,S)

GRADUATE COURSES

200A-B. Mathematical Methods of Physics

(4-4) STAFF

Mathematical techniques useful in physics, including the theory of functions of a complex variable, linear algebra. Fourier transforms, differential equations, special functions. Cartesian tensors, calculus of variations, and numerical methods. (F,W)

202. Group Theory

(4) STAFF

Theory of groups and their representations. Applications to solid state, atomic, molecular, and elementary particle physics.

205. Classical Mechanics

(4) STAFF

Review of Lagrangian mechanics. Variational principles. Hamilton's equations. Canonical transformations. Hamilton Jacobi Theory. Action angle variables. Time dependent and canonical perturbation theory. Motivation of quantum mechanical formalism. Central forces and scattering. Small vibrations. Rigid body motion. Introduction to Hamiltonian chaos.

210A-B. Electromagnetic Theory

(4-4) STAFF

Electrostatics, magnetostatics, boundary value problems, time varying fields, Maxwell's equations, radiation, multipole fields, scattering, relativistic particle dynamics. (W,S)

215A-B-C. Quantum Mechanics

(4-4-4) STAFF

Fundamental principles; Schroedinger equation; angular momentum; perturbation theory; scattering theory, emission, and absorption of radiation; Dirac equation. (F,W,S)

217A. The Many Body Problem in Condensed Matter Physics

(4) STAFF

Prerequisite: Physics 215C.

Field theoretic methods as applied to (non-relativistic) condensed matter systems. Green's functions and diagrammatic techniques applied to various examples of interacting many body systems, including fermions, bosons, and spins. Relationship of theoretical quantities to physical measurements. (W)

217R. Advanced Topics in Condensed Matter Physics

(4) STAFF

Prerequisite: Physics 217A. Topics covered will vary and may be repeated with the consent of the instructor.

In different years this course will treat in-depth special topics in such fields as: magnetism, superconductivity, quasi-one-dimensional systems, critical phenomena, and pattern formation. (S)

219. Statistical Mechanics

(4) STAFF

Prerequisites: Physics 205, 215A, and 119 or equivalent taken at another institution, or consent of instructor.

Fundamental principles of classical and quantum statistics. Non-interacting Boltzmann, Bose, and Fermi systems. Virial expansion and other approaches to interacting systems. Phase transitions. (S)

221A-B. Relativistic Quantum Field Theory

(4-4) STAFF

Prerequisite: Physics 215C.

Introduction to the theory of Lorentz covariant quantized fields. Global and local symmetries and conservation laws. Path integral formulation. Applications to quantum electrodynamics. (F,W)

221R. Advanced Quantum Field Theory

(4) STAFF

Prerequisite: Physics 221B. Topics covered will vary; may be repeated with the consent of the instructor.

Possible topics include the SU(2)xU(1) theory of electroweak interactions, quantum chromodynamics, grand unification, the renormalization group, anomalies, current algebra, supersymmetry, lattice gauge theory. (S)

223A-B. Concepts and Phenomena of Condensed Matter Physics

(4-4) STAFF

Prerequisites: Physics 219, 215C. Same course as Materials 224A-B.

Lattice and electron dynamics, transport phenomena, and other major topics such as: optics, superconductivity, cooperative magnetism, electron-phonon interactions, defects, disorder. (F,W)

225A. Elementary Particle Physics

(4) STAFF

Prerequisite: Physics 125, 215C, or equivalent or consent of instructor.

The phenomenology of the standard model of particle physics. QED and QC process.

225B. Elementary Particle Physics

(4) STAFF

Prerequisite: Physics 225A or consent of instructor.

Weak interactions; neutrino physics; C,P, and CP violation; electroweak gauge theory and symmetry breaking. Design of detectors and experiments; searches for new phenomena.

231A-B. General Relativity and Relativistic Astrophysics

(4-4) STAFF

Prerequisites: Physics 210A-B.

The principle of equivalence, gravity as geometry, the differential geometry of curved space time, Einstein's equations, the relativistic stars, gravitational collapse, black holes, observational and theoretical cosmology, gravitational radiation. (W,S)

231R. Advanced Topics in General Relativity
(4) STAFF

Prerequisite: Physics 231B. Topics covered will vary; may be repeated with the consent of the instructor.

This course may cover in different years such subjects as: the astrophysics of compact objects, gravitational waves, the global properties of spacetime, black holes, cosmology, and quantum gravity. (F)

233A-B. Astrophysics
(4) STAFF

Prerequisite: consent of instructor.

Survey of modern astrophysics emphasizing phenomenology and current research. Substantial student participation expected. Topics include the solar system, stars, nebulae, galaxies, quasars, dark matter, large-scale structure of the universe and cosmology.

250. Special Topics in Astrophysics
(1-4) STAFF

The course will vary from year to year according to the currents of the times. Course may be repeated with a different topic.

251. Special Topics in High Energy Physics
(1-4) STAFF

The course will vary from year to year according to the currents of the times. Course may be repeated with a different topic.

252. Special Topics in Condensed Matter Physics
(1-4) STAFF

The course will vary from year to year according to the currents of the times. Course may be repeated with a different topic.

253. Special Topics in Optics and Spectroscopy
(1-4) STAFF

The course will vary from year to year according to the currents of the times. Course may be repeated with a different topic.

255. Special Topics in Theoretical Physics
(1-4) STAFF

The course will vary from year to year according to the currents of the times. Course may be repeated with a different topic.

260A. Colloquium
(1) STAFF

260B. Seminar in Macromolecular Physics and Organic Solids
(1) STAFF

260C. Seminar in General Relativity
(1) STAFF

Talks on topics in gravity and general relativity pertinent to current doctoral research in the field.

260D. Seminar in Theoretical Physics
(1) STAFF

260E. Condensed Matter Seminar
(1) STAFF

260F. Seminar in High Energy Physics
(1) STAFF

260G. Graduate Seminar
(1) STAFF

Weekly seminar on topics of research currently being pursued in the Department of Physics.

500. Teaching Assistant Seminar
(2) STAFF

No unit credit allowed toward advanced degree. Required course for all teaching assistants.

Covers development of teaching techniques especially oriented to lower-division physics laboratory instruction. Theoretical aspects covered at beginning of each quarter. Practical techniques discussed including weekly meeting with class instructor, formal evaluation, and videotaping analysis. (F)

503. Research Assistant Seminar
(1-3) STAFF

No unit credit allowed toward advanced degrees.

Research assistants must give one or more lectures in the subject of their research in the Department of Physics. (Normally combined with Physics 260G.)

594AA-ZZ. Special Topics
(1-4) STAFF

Prerequisite: consent of instructor.

Special seminar on research subjects of current interest. Each staff member has a seminar identified by a number code listed in the Schedue of Classes. (F,W,S)

595AA-ZZ. Group Studies
(1-6) STAFF

Prerquisite: consent of instructor. May be repeated for credit to a maximum of 12 units.

Each staff member has a group studies course identified by a number code listed in the Schedule of Classes. (F,W,S)

596AA-ZZ. Directed Reading and Research
(2-12) STAFF

Prerequisite: consent of instructor.

Individual tutorial. Reading and research in special topics including work done as the basis for the dissertation. Each staff member has a directed reading and research course identified by a number code listed in the Schedule of Classes. (F,W,S)

599AA-ZZ. Dissertation Preparation
(1-12) STAFF

Prerequisite: consent of instructor. May be repeated for credit up to 24 units.

This course is reserved for writing the dissertation. Each staff member has a research course identified by a number code listed in the Schedule of Classes. (F,W,S)

Political Science

Department of Political Science,
Division of Social Sciences,
Ellison Hall 3834;
Telephone (805) 893-3431
Department Chair:
M. Stephen Weatherford

Faculty

Stanley V. Anderson, LL.B., Ph.D., UC Berkeley, Professor Emeritus

Gordon E. Baker, Ph.D., Princeton University, Professor *(American political and constitutional thought, state politics)*

Bruce Bimber, Ph.D., UC Berkeley, Assistant Professor *(public policy)*

Gayle Binion, Ph.D., UC Los Angeles, Professor *(public law)*

Marguerite Bouraad-Nash, Ph.D., University of North Carolina, Lecturer *(international politics, Middle East politics)*

Benjamin J. Cohen, Ph.D., Columbia University, Louis G. Lancaster Professor of International Relations *(international relations, international political economy)*

Peter Digeser, Ph.D., Johns Hopkins University, Assistant Professor *(political theory)*

Haruhiro Fukui, Ph.D., Australian National University, Professor *(Japanese politics, comparative politics)*

Michael Gordon, Ph.D., Harvard University, Associate Professor *(international politics, Western Europe)*

Wolfram Hanrieder, Ph.D., UC Berkeley, Professor *(international politics, American and comparative foreign policy)*

Raghavan N. Iyer, D.Phil, University of Oxford, Professor Emeritus

M. Kent Jennings, Ph.D., University of North Carolina, Professor *(political socialization)*

Cynthia S. Kaplan, Ph.D., Columbia University, Associate Professor *(comparative politics, Soviet Union, political economy)*

Alan P. L. Liu, Ph.D., Massachusetts Institute of Technology, Professor *(Chinese politics, comparative politics)*

Joseph Lodge, J.D., University of Michigan, Lecturer *(presiding judge, Santa Barbara/Goleta Municipal Court)*

Fernando Lopez-Alves, Ph.D., UC Los Angeles, Assistant Professor *(comparative politics, Latin America, political economy)*

Dean Mann, Ph.D., UC Berkeley, Professor Emeritus

Lorraine M. McDonnell, Ph.D., Stanford University, Professor *(public policy)*

Peter H. Merkl, Ph.D., UC Berkeley, Professor Emeritus

John E. Moore, Ph.D., Princeton University, Associate Professor *(public and regulatory administration)*

A. E. Keir Nash, Ph.D., Harvard University, Professor *(politics and population, constitutional law, political change)*

Robert C. Noel, Ph.D., Northwestern University, Associate Professor *(regional politics of the Middle East, international relations, comparative politics)*

C. Herman Pritchett, Ph.D., University of Chicago, Professor Emeritus

Cedric J. Robinson, Ph.D., Stanford University, Professor *(political theory, Black politics)*

Thomas S. Schrock, Ph.D., University of Chicago, Professor *(political philosophy, public law)*

Eric R.A.N. Smith, Ph.D., UC Berkeley, Associate Professor *(public opinion, voting behavior, party realignment, quantitative methods)*

Henry A. Turner, Ph.D., University of Chicago, Professor Emeritus

M. Stephen Weatherford, Ph.D., Stanford University, Professor *(political analysis, public opinion)*

John T. Woolley, Ph.D., University of Wisconsin, Madison, Associate Professor *(public policy, political economy)*

Alan J. Wyner, Ph.D., Ohio State University, Senior Lecturer with Security of Employment *(state and local politics, public policy and administration)*

"**P**olitical science," wrote Hans J. Morgenthau, "deals with the nature, the accumulation, the distribution, the exercise, and the control of power on all levels of social interaction, with special emphasis upon the power of the state." In exploring the processes by which individuals and groups acquire and use power, political science draws on historical, economic, and behavioral data to illuminate government's role in the contemporary world.

The Department of Political Science offers a balanced program, emphasizing the integration of theory and practice rather than any single approach or methodology. In addition to its standard program, the department also offers a public service emphasis and an international relations emphasis for undergraduate majors. An undergraduate honors thesis program is available to selected students. The M.A. and Ph.D. programs encompass work in all fields of political science.

Advising is available to undergraduates through the departmental undergraduate adviser who counsels students during scheduled hours and by appointment. Students are encouraged, in addition, to consult with individual faculty members about course content and professional or career concerns. Graduate advisers are appointed by the department and may be contacted through the department office.

After completing specific prerequisites, students with a bachelor's degree in political science are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Bachelor of Arts—Political Science

Preparation for the major. Admission into the pre-political science major is contingent upon successful completion of the requirements stipulated below. Students may declare a pre-political science major after they have completed at least two political science courses from the pre-major with at least a 2.6 grade-point average or above. Once the preparation for the major is completed with the required grade-point average, students must then petition for admission into full major status and at that time may declare an optional emphasis. Admission to the pre-major does not guarantee admission to full major status. To qualify for admission into the political science major, students must complete Political Science 1, 2, 3, 12 or 100 with a grade-point average of 2.6 or above. In addition, students must complete Economics 1 and 2 (or 109) and History 4A-B-C. Transfer and upper-division students should consult the undergraduate adviser about substitutions. Students planning on majoring in political science should take Political Science 1, 2, 3, and 12 during their freshman or sophomore year.

Upper-division major. Thirty-six upper-division units are required, which must include at least one course from each of the following:

Group 1. Political Science 105, 121, 147;
Group 2. Political Science 110, 111, 112, 113, 114, 187, 188, 189;
Group 3. Political Science 115, 151, 152, 153, 154, 155, 157, 158, 180, 181.

The remaining 24 units may include courses from the above options other than those used for the 12-unit requirement, as well as other upper-division political science courses (excluding 100). No more than a combined total of 8 units of courses numbered 190 and above, nor more than 4 units each in Political Science 190, 192, 193, 194, or 199, may apply toward major requirements. Up to 4 units of Political Science 192, which is available only passed/not passed, may be taken for major credit; all other courses must be taken for letter grades.

Bachelor of Arts—Political Science—International Relations Emphasis

Preparation for the major. Admission into the pre-political science major is contingent upon successful completion of the requirements stipulated below. Students may declare a pre-political science major after they have completed at least two political science courses from the pre-major with at least a 2.6 grade-point average or above. Once the preparation for the major is completed with the required grade-point average, students must then petition for admission into full major status and at that time may declare an optional emphasis. Admission to the pre-major does not guarantee admission to full major status. To qualify for admission into the political science major, students must complete Political Science 1, 2, 3, 12 or 100 with a grade-point average of 2.6 or above. In addition, students must complete Economics 1 and 2 (or 109) and History 4A-B-C. Transfer and upper-division students should consult the undergraduate adviser about substitutions. Students planning to major in political science should take Political Science 1, 2, 3, and 12 during their freshman or sophomore year.

Required work in relevant disciplines: Psychology 102 or Sociology 2. Two additional courses must be taken from the following list: Anthropology 115; Economics 107, 112A-B, 114, 180, 181; Geography 5; Psychology 134, 138; Sociology 138, 141; History 171A-B or another upper-division history course in Asian, Latin American, European, or African history.

Language requirement: Completion of the fifth quarter or its equivalent.

Upper-division major. Forty upper-division units in political science, to be distributed as follows:

A. Political Science 105, 121, and 127;
B. Two courses from Political Science 109, 119, 120, 122, 123, 124, 125, 128, 129, 131, 132, 133, 186A;
C. Two courses from Political Science 109, 130, 134, 135, 136, 139, 140, 141, 143, 144, 145, 146A-B, 147, 148A-B, 150A-B-M;
D. Three courses from the following, but no more than two courses from any one category:
(1) Political Science 180, 181, 185
(2) Political Science 153, 155, 157, 158
(3) Political Science 110, 112, 113, 114, 189.

Note: With departmental approval, Political Science 192 (4 units) may be substituted for one course in Area D-1 or D-2. Up to 4 units of Political Science 192, which is available only passed/not passed, may be taken for major credit; all other courses must be taken for letter grades.

Bachelor of Arts—Political Science—Public Service Emphasis

The coursework in the public service emphasis focuses on the fields of politics and public administration and includes work in sociology and economics. Students in this emphasis are required to serve a one-quarter, full-time internship in a governmental or political office during their senior year. Internships are open to all political science majors, whether or not they choose the public service emphasis. To qualify for the internship, students are expected to have a 3.0 grade-point average and junior or senior standing; they must also have completed courses relating to the work they plan to perform as an intern. Departmental approval is required and interested students should see the undergraduate adviser for further details.

Preparation for the major. Admission into the pre-political science major is contingent upon successful completion of the requirements stipulated below. Students may declare a pre-political science major after they have completed at least two political science courses from the pre-major with at least a 2.6 grade-point average or above. Once the preparation for the major is completed with the required grade-point average, students must then petition for admission into full major status and at that time may declare an optional emphasis. Admission to the pre-major does not guarantee admission to full major status. To qualify for admission into the political science major, students must complete Political Science 1, 2, 3, 12 or 100 with a grade-point average of 2.6 or above. In addition, students must complete Economics 1 and 2 (or 109) and History 4A-B-C. Transfer and upper-division students should consult the undergraduate adviser about substitutions. Students planning to major in political science should take Political Science 1, 2, 3, and 12 during the freshman or sophomore year.

Required work in relevant disciplines:

A. Computer Science 1A and 1B or 5, or Interdisciplinary Studies 5;

B. Economics 3A and 3B or Economics 3A and 7;

C. English 42 or 106 or 109B.

Upper-division major. Forty-five upper-division units in political science are required, to be distributed as follows:

A. Two courses from Political Science 170, 180, 181, 182, 185;

B. One course from Political Science 152, 153, 154, 174, 175, 176;

C. One course from Political Science 153, 155, 157, 158;

D. One course from Political Science 161, 162, 163;

E. One course from Political Science 115, 165, 166, 167, 168;

F. One course from Political Science 105, 110, 113, 114, 119, 121, 127, 147, 189;

G. Political Science 104A and 104AL;

H. A total of 12 units of Political Science 192 and 199, Interdisciplinary 192DC and 199DC, to be taken during one quarter of internship while registered at UCSB.

Up to 8 units of Political Science 192, which is available only passed/not passed, may be taken for major credit; all other courses must be taken for letter grades.

Political Science 153 may be used in Area B or C of major but not in both.

Honors Thesis Program

In the winter quarter of the junior year, students with outstanding academic records are eligible for the department's honors thesis program. Those accepted begin their work in the following quarter in a specially designed seminar. In their senior year, they take additional seminar work and write a thesis. Honors graduates will be identified separately each year at the head of the graduation list for political science, and will be eligible for graduation with Distinction in the Major. Details are available from the department office.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university requirements described in the chapter "Graduate Education at UCSB."

Master of Arts—Political Science

The work offered by the Department of Political Science falls into the following six fields: American politics/public policy and administration, public law, international relations, comparative politics (including area studies), political theory, and methodology.

Admission

The department's *Graduate Program Statement* offers a detailed explanation of the program. Applicants must submit results of the Graduate Record Examination Aptitude Test.

Degree Requirements

The M.A. degree in political science is offered under Plan 1 (thesis plan), Plan 2 (oral examination plan), and Plan 3 (public policy internship plan). In Plan 1, candidates must complete at least 32 units of coursework, normally in graduate courses in political science, and write a thesis. In some cases, a candidate may be required to take either a written or an oral examination.

In Plan 2, candidates must complete at least 36 units of coursework, normally in graduate courses in political science, including coursework in at least three of the political science fields listed above. In addition, candidates must pass an oral examination in two fields and complete two courses or seminars outside of the examination fields.

In Plan 3, candidates must complete 36 units of credit, including 12 in the field of public administration and public policy and 12 in the fields of American politics and/or public law. Eight units of credit will be awarded for academic work associated with a supervised internship. Candidates must pass an examination in two of the political science fields listed above.

Doctor of Philosophy—Political Science

Admission

Completion of the M.A. degree or its equivalent is prerequisite for admission to the doctoral program. Applicants must submit results of the Graduate Record Examination Aptitude Test. The *Graduate Program Statement*, available from the graduate adviser or the department office, offers a detailed explanation of the program.

Degree Requirements

Residence. A minimum of two years of fulltime residence in graduate study, at least one year of which is spent in continuous residence, is required for the doctorate.

Fields of study. The Ph.D. program centers on coursework and preparation in two written examination fields, plus coursework in third and fourth nonexamination fields. Typically, field choices are made from among the following: political theory, public law, American politics including public administration and public policy, international relations, and comparative politics. It is also possible to tailor special fields to the interests of individual students. Appropriate courses may be taken at other UC campuses through the Intercampus Exchange Program.

Language and research skills. The student may choose a foreign language option or a research skills option to fulfill the language/skills requirement for the Ph.D. The research skills option may be associated with the choice of three methodological courses under the fourth nonexamination field requirement.

Examinations. After successful completion of the written qualifying examinations, the student will take an oral examination which will primarily focus on his/her dissertation prospectus.

Dissertation. With the advice and approval of the doctoral committee, each student will select a dissertation topic in the major field of specialization. The dissertation must be based on original research and must make a significant contribution to knowledge in the field.

Political Science Courses

LOWER DIVISION

Freshmen entering fall quarter are advised to take Political Science 1 or 12.

1. Political Ideas in the Modern World
(4) BAKER

Prerequisite: open to lower-division students only.

Perennial questions and diverse responses, with emphasis on such central concepts as liberty, equality, power, authority, justice, law, and constitutionalism. Democracy and authoritarianism. The nexus between ends and means in political life.

2. Comparative and International Politics
(4) GORDON

Prerequisite: open to lower-division students only.

Order and violence in national and international politics. The nation-state, nationalism, and political development. Power, elites, and responsiveness. Revolution and mass movements. The social base of politics: culture, socialization, and participation. Parties and groups.

3. Introduction to Public Policy
(4) WOOLLEY, MOORE, WYNER

Prerequisite: open to lower-division students only.

Formation, administration, and evaluation of public policy. The problem of bureaucratic power and public accountability in the United States illustrated by specific case studies.

12. American Government and Politics
(4) WYNER, SMITH

Prerequisite: open to lower-division students only. Not open to students who have received credit for Political Science 100.

Political ideas, institutions, and processes of American government. The role of Congress and the president in policy formation and of the Supreme Court in interpreting the Constitution.

49. Library Research Methods in Political Science
(2) STAFF

The course will consist of lectures, brief written assignments, and oral reports. Class discussion on the lectures and reports will be encouraged as well as discussion on actual problems encountered by students in their research work.

98. Readings in Political Science
(1-4) STAFF

Prerequisites: (1) minimum 3.0 cumulative grade-point average; (2) consent of instructor and department. May be repeated for credit to a maximum of 4 units. No unit credit allowed toward the major.

Critical reviews and discussions of related topics in political science.

99. Introduction to Research
(1-4) STAFF

Prerequisites: 1) minimum 3.0 cumulative grade-point average; 2) consent of instructor and department. May be repeated for credit to a maximum of 4 units. No unit credit allowed toward the major.

Independent research under the guidance of a faculty member in the department. Course offers exceptional students the opportunity to undertake independent research or work in a research group.

UPPER DIVISION

100. American National Government
(4) STAFF

Not open to students who have received credit for Political Science 5, 10, or 12.

Institutions of our national government and the political ideas on which these institutions have been established; the role of Congress, the president, the courts, administrative agencies, and regulatory legislation.

102. Political Socialization
(4) JENNINGS

Prerequisite: Political Science 12 or consent of instructor.

The process, content, and goals of learning political values and behavior patterns. The application and significance of such characteristics in the functioning of political systems. Socialization as a theoretical and analytical component of political culture.

103. Strategies in Politics
(4) STAFF

A nontechnical, introductory survey of game theory with emphasis on applications in everyday political and social behavior. Topics include the formation of coalitions in legislatures, bargaining, competition among political parties, the consequences of electoral laws, etc.

104A. Political Research Methods and Data Analysis
(4) WEATHERFORD

Prerequisites: upper-division standing. Not open to students who have completed Political Science 104.

An introduction to the design and evaluation of political research-formulating clear hypotheses, developing appropriate measures, and analyzing data using simple statistical methods; emphasizes clear exposition of findings in written, quantitative, and graphical form.

104AL. Political Research Methods and Data Analysis Lab
(1) STAFF

Prerequisites: upper-division standing. Not open to students who have completed Political Science 104L.

Experience with actual data analysis in solving quantitative political problems. It must be taken concurrently with Political Science 104A.

104B. Political Research Methods and Data Analysis
(4) WEATHERFORD

Prerequisites: Political Science 104A and upper-division standing.

Introduces intermediate statistical methods through multivariate regression, exploring advanced capabilities of PC-based software for quantitative analysis and graphical presentation; emphasis on design and execution of student projects, and on writing, presenting, and revising research reports.

104BL. Political Research Methods and Data Analysis Lab
(1) WEATHERFORD

Prerequisites: upper-division standing and Political Science 104AL.

Experience with actual data analysis in solving quantitative political problems. It must be taken with Political Science 104B.

105. Introduction to Comparative Politics
(4) MERKL

A comparison of federalism, political parties, and executive leadership in different countries. A core course generally recommended, and in some cases required, for advanced work in comparative government.

106. Special Topics in Political Science
(4) STAFF

Prerequisite: upper-division standing. May be repeated for credit to a maximum of 8 units; only 4 units may be applied for credit in the major.

Lectures in special areas of interest in political science. Specific course titles to be announced by the department each quarter offered.

107. Revolution in The Third World
(4) STAFF

Prerequisite: upper-division standing.

Analysis of the dynamics of revolutionary change in the modern world; particular reference to the role of peasants in Third World revolutions.

108. Politics and Literature
(4) STAFF

This course will explore problems concerning alienation, obligation, power, freedom, and fulfillment as treated by ancient and modern authors.

109. Revolution and Mass Movement
(4) LIU

Prerequisite: Political Science 2.

Analyzing the dynamics of revolutions from the French and Soviet to contemporary revolutions in Asia, Latin America, and the Middle East.

110. Political Concepts
(4) ROBINSON

Introduction to some of the main concepts of political theory such as the individual and the state, freedom and equality, and political obligation, and their relevance to modern society and government.

111. Anarchist Thought
(4) STAFF

An examination of the diverse and enduring strains of anarchist thought concerning the reconstruction of society, politics, and the individual personality. Theories and programs from Godwin to Gandhi, the late eighteenth century to the present, will be considered with an emphasis on the relation between theory and practice.

112. Marxism
(4) ROBINSON

Concepts of state, law, alienation, and the relationship between theory and practice. Historical dimensions, including the Hegelian heritage, Marxist theory, various stages of Marx's intellectual development, Engels' contributions, and the "socialism/communism" split; current aspects of Neo-Marxism.

113. American Political Thought
(4) BAKER

The origin and development of significant political ideas in the United States, as expressed in the contributions of selected thinkers.

114. Democratic Theory
(4) DIGESER

Prerequisite: not open to freshmen.

An analysis of the philosophical bases of democracy, such as political obligation (Why should I obey the state?), political equality (Why should one person have one vote?), liberty, consent, representation, and rights.

115. Law in the Modern State
(4) BINION

Legal institutions in democratic societies, with particular reference to the United States. The role of lawyers, judges, and courts. The unique functions of the Supreme Court in the American political system. Judicial reasoning as reflected in selected decisions.

117. Jurisprudence
(4) STAFF

Prerequisite: Political Science 115 or consent of instructor.

An inquiry into the nature of law and justice.

119. Ethical Issues in International Relations
(4) DIGESER

Prerequisites: Political Science 1 and 2. Not open to freshman.

An examination of the possibility and desirability of normative international political theory and an exploration of the moral dimensions of statecraft; use of force, nuclear deterrence, humanitarian intervention, distributive justice, and human rights.

120. Mass Media and World Affairs: International Political Communication
(4) NOEL

Prerequisites: A) one course in social science analysis, e.g., Political Science 104, Sociology 43, Communication Studies 89, Psychology 101. B) Political Science 121 or equivalent course in international relations.

An examination of the role of mass media (especially news) in shaping world affairs, including study of global information flows in the international system, review of the debate over the world "information order"and analysis of the institutional and behavioral processes involved in the creation of "mass mediated reality."

120L. Laboratory in Mass Media and World Affairs
(1) NOEL

Prerequisite: concurrent enrollment in Political Science 120 is required.

Participation in simulation execise of the organizational process model of news; collateral readings of laboratory manual and materials.

121. International Politics
(4) GORDON, NOEL

Prerequisite: a lower-division course in Political Science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-division standing.

An examination of theories concerning the actions, interactions, and relationships among nation-states.

122. Selected Problems in International Relations: Conflict in the Middle East
(4) NOEL

Prerequisite: Political Science 121 or consent of instructor.

Patterns of conflict and coalition in the Middle East, including the regional impact of the policies of global powers. Special analysis of Arab-Israeli conflict: the perspectives of belligerants; psychological dynamics; evaluation of approaches to conflict resolution.

122L. Learning Laboratory in the Middle East
(1) NOEL

Self-paced instruction of background materials on the Middle East.

123. Atomic Energy and International Relations
(4) NOEL

A critical review of strategic thought with regard to nuclear weapons, including an examination of arms control and disarmament proposals and the study of efforts to control the spread of sensitive civilian technologies. Survey of national policies toward nuclear energy and weapons.

124. International Organization
(4) STAFF

The nature and function of international organization, stressing an evaluation of the experience of the League of Nations and the United Nations; regional organizations and specialized agencies.

125. International Law
(4) STAFF

Nature and sources of international law; international legal personality; nationality, territory, jurisdiction; diplomatic and consular agents; treaties; war; neutrality.

127. American Foreign Policy
(4) HANRIEDER

The United States in world politics. Policy-making institutions, particularly the presidency, Congress, State Department, and the military establishment. Interaction between domestic and external politics.

128. Soviet Foreign Policy
(4) KAPLAN

The foreign policies of the Soviet Union considered in relation to such concepts as continuity and change. Messianism and real-politik, tactics and strategy, coexistence expansion.

129. The United States, Russia, and Europe
(4) GORDON

The cold war and East-West tensions. NATO and its military problems, including nuclear strategy and arms control. Soviet foreign policy and its hold over East Europe. Transatlantic strains caused by peace movements, domestic trends, and new economic problems.

130. Comparative Communist Systems
(4) KAPLAN

A comparative examination and analysis of the Communist systems of Eastern Europe, Soviet Russia, and China, with particular reference to sources of growing diversity in institutions, concepts of man and society, economic policy, and the role of the party.

131. China in World Affairs
(4) LIU

The ideological and cultural attitudes of mainland China, with emphasis on general policies both within the Communist world and other areas (South Asia, Africa, and America).

132. Latin America in World Affairs
(4) STAFF

Relations of Latin America with the United States and other world powers; Pan-Americanism and its relation to world organization.

133. Africa in World Affairs
(4) STAFF

The political economy of African international relations; economic dependency and underdevelopment; decolonization and liberation; the nonaligned movement; relations between Africa and the European Economic Community; the OAU and the UN, Commonwealth, Arab League, etc.

134. Relations between the United States and Mexico
(4) STAFF

Prerequisite: junior standing or consent of instructor.

A general examination of relations between the United States and Mexico in the nineteenth and twentieth centuries. Emphasis is placed on issues such as the origins of conflict and cooperation, and current issue areas like immigration.

135. Government and Politics of Japan
(4) FUKUI

The organization and operation of Japanese politics, with particular attention to domestic political forces and problems.

136. Government and Politics of China
(4) LIU

The ideology, structure, and functions of the Chinese political system, with emphasis on the nation-buliding process under the Communist regime.

137. Pacific Community: Politics and Cultures
(4) STAFF

Prerequisite: upper-division standing.

Development of the Pacific Basin idea, the political-cultural parallels and connections among Pacific Rim nations. The development as seen against the background of trade and investment across the Pacific and technological progress which has made the Pacific Basin concept a reality.

138. Political and Economic Development in Pacific Rim Countries
(4) STAFF

Prerequisite: upper-division standing.

Study of domestic and international conditions contributing to the dynamics of society and economy in East Asian countries of South Korea, Taiwan, and Singapore. Emphasis on the role of the state, culture, experience of colonialism, threat of Communism, and United States aid and influence.

139. Government and Politics in Southeast Asia
(4) FUKUI

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-division standing.

A general introductory survey of modern and contemporary developments in Southeast Asia.

140. Politics of France and Italy
(4) MERKL

The political culture, history, political parties, and governmental organization of France and Italy.

141. Politics of Germany
(4) MERKL

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements)or upper-division standing.

The political culture, history, political, and social forces, and governmental organization of Western Germany and Eastern Germany.

143. Government and Politics in the Soviet Union
(4) KAPLAN

Ideological foundations. Structure and methods of the Communist party. The apparatus of government and its development.

144. Governments of Central and Eastern Europe
(4) STAFF

Prerequisites: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-division standing.

The political cultures, ruling parties, ideological foundations and practices, and socioeconomic problems. Foreign policies, including analyses of cohesive and divisive forces within the Communist bloc.

145. The Politics of Scandinavia
(4) STAFF

The political culture, institutions, processes, and relations of the Nordic countries — Denmark, Finland, Iceland, Norway, and Sweden. Emphasis on constitutional history.

146A. African Politics
(4) STAFF

Prerequisite: not open to freshmen.

Comparative analysis of the politics of sub-Saharan African states. Special attention is given to the role of economic, sociological, and historical factors in contemporary politics and national development.

146B. The Politics of Southern Africa
(4) STAFF

Prerequisite: Political Science 146A; or consent of instructor. Not open to freshmen.

Comparative analysis of the political economy of southern Africa with a special emphasis on South Africa the Frontline States.

147. Third World Politics
(4) FUKUI

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-divsion standing.

A comparative analysis of the political systems of a selected number of African, Asian, and Middle Eastern countries, with particular development and modernization common to all of them.

148A-B. Reform and Revolution in Latin America
(4-4) LOPEZ-ALVES

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-division standing.

A: A comparative study of governmental and political development, organization, and practices in the states of Middle America.

B: A comparative study of governmental and political development, organization, and practices in the states of South America.

149. Comparative Religion and Politics of Middle East
(4) NOEL

Prerequisites: upper-division standing. Same course as Religious Studies 149.

This course focuses on "primordialism" in the contemporary Middle East and how kinship, ethnicity and religion impact nation-building. Four cases are selected from Egypt, Saudi Arabia, Israel-Palestine, lebanon, Syria and Iraq.

150A. Politics of the Middle East
(4) BOURAAD-NASH

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements), or upper-division standing.

The development of governmental institutions and political forces in the postcolonial era. Emphasis will be placed on relationships between ideology, cultural dynamics, and politics, including examination of inter-Arab politics, the Arab-Israeli conflict, and the war in Lebanon.

150B. Politics of the Middle East
(4) NOEL

Prerequisite: Political Science 150A; or consent of instructor.

Political development and nationalism in the Northern Tier, Arab North Africa, and the Arabian Peninsula. The politics of oil. The resurgence of Islam, Iran, Irag, Saudi Arabia, Turkey, Afghanistan, great power rivalry in the Middle East since 1945.

150M. The Middle East in World Affairs
(4) STAFF

Prerequisite: upper-division standing.

The Arab-Israeli struggle; the Lebanese war; oil diplomacy; the arms race; Soviet, American, and European objectives and conflicts in the Middle East.

151. Voting and Elections
(4) JENNINGS, WEATHERFORD

Introduction to elections and voting cross-nationally and at various levels of government: the role of electoral rules, party competition, and campaigns; the influence of issue, candidate, and partisan appeals on the vote; the effect of elections on public policy.

152. American Political Parties
(4) SMITH

The nature, characteristics, and history of American political parties; party organization; political campaigns and finance; nominations, elections, and electoral problems.

153. Political Interest Groups
(4) WEATHERFORD

The nature and function of organized interest groups and their impact upon public opinion and government.

154. Public Opinion
(4) WEATHERFORD, JENNINGS

A study of the formation and nature of public opinion, including: the public's political sophistication; the role of emotion in political thinking; nature of political culture; growth of political alienation and the forms of political participation.

155. Congress
(4) SMITH

Prerequisite: must be taken concurrently with Political Science 155L.

The organization, operation, and politics of Congress; problems of representation, leadership, relations with interest groups, the White House, and the bureaucracy.

155L. Congress Laboratory
(1) SMITH

Prerequisite: must be taken concurrently with Political Science 155.

A simulation of the United States House of Representatives designed to teach the operation and politics of congress.

156. Analysis of Political Behavior
(4) WEATHERFORD

Theories, methodologies, and findings of the behavioral approach to the study of the political system and men in that system. Chief reference is to the American system.

157. The American Presidency
(4) WOOLLEY

Prerequisite: Political Science 12 or 100.

Analysis of the institution of the presidency, its functions, formal and informal relationships, and its limitations within the American political system. Emphasis on the dynamics of the presidency, including presidential personality, conceptions of role, impact of public opinion, and responses to changes in the environment.

158. Power in Washington
(4) STAFF

Prerequisite: upper-division standing.

An examination and assessment of the policy and political linkages between the White House and Capitol Hill—decision making, legislative enactment, administrative implementation; the presidential establishment, bureaucratic politics, and the politics of influence and access in Washington.

161. State and Local Government
(4) WYNER

Basic problems and recent developments, with emphasis on state political forces, institutions, and processes. Intergovernmental relations.

162. Urban Government and Politics
(4) STAFF

Prerequisite: sophomore standing; Political Science 161 recommended.

Problems of politics and administration in urban and metropolitan areas.

162L. Urban Government and Politics Laboratory
(1) STAFF

Prerequisite: must be taken concurrently with Political Science 162.

Laboratory exercises in metropolitan government and politics with emphases on local interest groups, local decision making, and intergovernmental relations.

163. California Government and Politics
(4) WYNER

Characteristics of state and local government in California and an examination of political factors in the development of selected public policies.

165. Criminal Justice
(4) LODGE

Problems and functions of police, prosecution, and defense, relating to such problems as plea-bargaining, exclusionary rule, trials, bail, and sentencing.

166. Constitutional Law: Distribution of Power
(4) NASH

Prerequisite: Political Science 115 or consent of instructor.

The role of the Supreme Court as arbiter of federalism and separation of powers; interplay of political, social, and economic forces.

167. Constitutional Law: The Bill of Rights
(4) NASH, BINION

Prerequisite: Political Science 115 or consent of instructor.

The role of the Supreme Court as interpreter of First Amendment freedoms of expression and conscience, with some attention to procedural guarantees.

168. Constitutional Law: Civil Rights

(4) NASH, BINION

Prerequisite: Political Science 115 or consent of instructor.

The role of the Supreme Court as interpreter of political, social, and civil rights.

170. Public Policy Analysis

(4) STAFF

The assumptions, goals, content, and consequences of selected domestic policies, concentrating on the period since 1960. Discussion of the nature of collective action, methods of policy analysis and evaluation, and problems of implementation.

170L. Public Policy Laboratory

(1) STAFF

Political science laboratory on public policy problems. Emphasis on federal decision making in different policy areas.

171. Politics and Communication

(4) ROBINSON

The role of communications media and their influence on politics. How definitions of what is "news" and the way it is conveyed shape public thinking on political issues and affect candidates, causes, and public perceptions of government institutions.

174. Chicano Politics

(4) STAFF

Prerequisite: upper-division standing. Same course as Chicano Studies 174.

Political life in the barrio, political behavior of the Chicano community, and representation of Chicanos by elected officials and interest groups.

175. Politics of the Environment

(4) NASH

Analysis of environmental policy issues and their treatment in the political process. Discussion of the interplay of substantive issues, ideology, institutions, and private groups in the development, management, protection, and preservation of natural resources and the natural environment.

176. Black Politics in America

(4) ROBINSON

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-division standing.

A general survey of political phenomena in the Black community. American political institutions, law, legislation, and administration will be examined in theory and practice to determine their function in relation to Black politics.

177A-B. Politics and Population

(4-4) NASH

Prerequisite: Political Science 177A is prerequisite to Political Science 177B.

This two-quarter course sequence will explore changes in population growth, population migration, and demographic composition as political problems in both industrialized and nonindustrialized countries. Political effects of population-induced social, economic, and environmental strains. Hidden vs. deliberate population policies, population control, "cultural-economic" imperialisms, and political equity. Freedom, technology, population change, and political values.

180. Public Administration and Public Policy

(4) MOORE

The nature of American bureaucracy, behavior patterns of public officials, and the role of administration in the political process.

181. Public Administration: Organization and Process

(4) WYNER

Prerequisite: upper-division standing. Students planning to complete both Political Science 180 and 181 are encouraged to begin with Political Science 181.

Concepts and issues of public administration, including theories of organization, decision making, administrative behavior, and budgetary processes.

182. Marine Policy

(4) STAFF

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in departmental program requirements), or upper-division standing.

An introduction to ocean policy-making in the United States with emphasis on the institutional structures and the politics involved in managing ocean resources and uses. Main topics covered include offshore energy policy, fisheries management, and coastal zone management.

183. Budgeting in Public Organizations

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

Introduction to resource decision making in government agencies and the processes of formulating, appropriating, and expending public funds. Students complete budget proposal projects using microcomputers and spreadsheet software to learn role of budgeting in translating public goals into government action.

184. Problems in Economy, Society, and Politics

(4) STAFF

Prerequisite: upper-division standing. Same course as Sociology 166P.

Surveys contributions of the various social sciences to understand advanced capitalist economies. How social institutions like the family and the state influence the economy, and how economic institutions like firms and markets function as social and political organizations. Interdisciplinary; team-taught.

185. Government and the Economy

(4) MOORE

Government's evolving role in economic life; the cultural, political, and philosophical setting of government-business relations; the maintenance and moderation of competition; the goals, methods, and politics of regulatory administration.

186A. Introduction to International Political Economy

(4) COHEN

Prerequisite: upper-division standing

Introduction to the politics of international economic relations. Alternative analytical and theoretical perspectives are examined for their value in helping to understand and evaluate the historical development and current opeation of the world economy.

186B. The International Monetary System

(4) COHEN

Prerequisite: at least one upper-division course in international relations. upper-division standing.

The history and current structure of the international monetary system: the set of rules and institutions governing currency and balance-of-payments relations between sovereign states. particular emphasis on contemporary issues in the politics of global monetary relations.

187. Classical Political Theory

(4) SCHROCK

A careful examination of major texts and thinkers in the ancient world and in medieval times.

188. Modern Political Theory

(4) SCHROCK

Development of political ideas from the sixteenth century to the nineteenth century.

189. Recent and Contemporary Political Theory

(4) ROBINSON

Prerequisite: a lower-division course in political science or cognate discipline (acceptable cognate courses listed in department program requirements) or upper-division standing.

A reconstruction of contending theories of political order with which western intellectuals, from the nineteenth to the present century, have confronted an era of world historical changes.

Note: No more than a combined total of 8 units of courses numbered 190 and above (nor of 4 units each in Political Science 190, 192, 193, 194, or 199) may apply toward the major requirements. See public service emphasis for an exception.

190A. Laboratory/Seminar in Urban Policy Problems

(2) STAFF

Political Science 190A may be taken independently of other 190 laboratories.

An examination, through computer-based gaming and simulation, of selected problems in urban policy, with special emphasis on the relationships among social, political, and economic policy alternatives and the dynamics of growth and decay.

190P. Laboratory/Seminar in Polimetrics

(2) STAFF

An examination of the basic concepts of sampling, measurement, bivariate, and multivariate analysis, causal inference, and the use of computer-based statistical packages as they relate to political analysis. In addition, a general understanding of statistical tests will be sought.

192. Field Research in Political Science

(4-12) STAFF

Prerequisites: upper-division status, 3.0 overall grade-point average, approval by department.

Directed research on the political process through participant observation and relevant reading. Individually assigned, instructed, and supervised field-work. Students will examine first-hand behavior in leading political roles in American politics.

194. Group Studies

(1-4) STAFF

Prerequisites: consent of instructor; upper-division standing. Subject to departmental approval, students may repeat this course. Only 4 units may apply to the major.

Themes will vary according to instructor.

195. Honors Seminar

(4) STAFF

Prerequisite: consent of instructor.

An intensive analysis of the approaches, problems, and methodologies of a particular subfield of political science.

196. Senior Seminar in Political Science

(4) STAFF

197A-B-C. Honors Thesis Seminar in Political Science

(4-4-4) STAFF

Prerequisites: senior standing; 3.3 cumulative grade-point average; 3.5 grade-point average in major; approval of department. Political Science 197A-B-C is a three-quarter sequence course with the final grade issued upon completion of 197C. Only 4 units of credit may be applied toward the major.

Honors students, in three-quarter sequence of seminars, writing theses under close faculty supervision.

197D-E-F. Seniors Thesis in Political Science

(4-4-4) STAFF

Prerequisites: senior standing; 3.0 grade-point average; approval of department. Students may take this in-progress graded sequence for either two or three quarters with 197F designated as the final quarter.

Selected seniors pursue individual, significant research projects under close supervision of faculty readers.

199. Independent Studies in Political Science

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in political science. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Admission by special permission only; for majors. No more than 8 units of Political Science 199 may count toward completion of the major requirements.

199RA. Independent Research Assistance in Political Science

(1-5) STAFF

Prerequisites: Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in political science; (4) have consnet of instructor and department. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

Since the emphasis in some seminars changes from year to year, detailed course descriptions are available in the department office during the quarter prior to the seminar offering.

203. The Nature of Political Inquiry

(4) WEATHERFORD

The conduct of inquiry and explanation, and the nature and scientific status of the knowledge produced by research on social and political issues, are considered in the context of both the theory-building and practical, policy-oriented aspects of political science.

204. Research Design and Data Collection

(4) JENNINGS

205. Measurement and Data Analysis in Political Research

(4) WEATHERFORD

206. Advanced Political Research Methods I

(4) SMITH, WEATHERFORD

Prerequisite: introductory statistics and social scientific research methods.

Techniques of developing multivariate statistical models of political processes. Application of the general linear model to political dynamics and to problems with poorly-measured variables.

207. Advanced Political Research Methods II

(4) SMITH

Prerequisites: graduate standing, and Political Science 206.

215. The American Governmental Process

(4) WYNER

220. Constitutional Interpretation

(4) NASH

225. International Relations

(4) GORDON, HANRIEDER

226. Seminar on International Economics for Non-Economists

(4) COHEN

Introduction to the basic elements of international economic theory. Topics include the balance of payments and commercial policy, the global monetary and trading systems, international investment, and North-South economic relations. No prior training in the discipline of economics is required.

230. Comparative Political Systems

(4) LOPEZ-ALVES

A general survey of theories of comparative politics with some attention to concrete applications and to comparative trends in other social sciences and history.

231. Comparative Methods

(4) KAPLAN

Prerequisites: graduate standing. Consent of instructor.

Focuses on the logic and design of comparative studies; evaluates the utility of differing methods in relation to prominent research issues in the field.

232. Problems in Political Economy

(4) WOOLLEY

Reviews selected issues in political economy. Theoretical topics include the collective action problem, the prisoner's dilemma game, the logic of two-level or "nested" games, and the development and effects of institutions. Substantive topics emphasize advanced industrial societies.

233. Comparative Political Economy

(4) LOPEZ-ALVES

The course focuses on central theories of political economy and comparative politics. Its major objective is to train participants in comparative analysis by the critical examination of theories and application to case studies. This seminar has no specific area focus.

235. American Public Administration

(4) STAFF

Prerequisite: graduate standing.

240. Seminar on Classical Political Thinkers

(4) SCHROCK

Prerequisite: graduate standing.

241. Seminar on Modern Political Thinkers

(4) ROBINSON, SCHROCK

Prerequisite: graduate standing.

242. Seminar on Contemporary Political Thinkers

(4) ROBINSON, SCHROCK

Prerequisite: graduate standing.

243. Seminar in Political Concepts

(4) DIGESER

Concepts that are crucial to the analysis, understanding, and transformation of political and social phenomena. The seminar will draw insights and examples from the classical and contemporary literature, the present, and the future.

248. Seminar in American Political Thought

(4) BAKER

250. Seminar in Political Socialization

(4) JENNINGS

The development of political attitudes and behavior throughout the entire life cycle. Major foci of attention include the agents of political socialization, the content of socialization, variations within and across political systems, and the impact of generational and historical effects.

251. Political Representation

(4) JENNINGS

252. Seminar in Public Opinion and Political Participation

(4) WEATHERFORD, JENNINGS

253. Seminar in Political Interest Groups

(4) WEATHERFORD

The theme of this course is the transmission of demands and grievances from the wider polity to the government by way of collective action. Formal nonparty organizations as well as political and social movements are considered.

254. Seminar in the Legislative Process

(4) SMITH

An examination of a range of problems in the study of the organization, operation, and politics of American legislatures--especially the U.S. Congress.

255. Seminar in State Government and Politics

(4) WYNER

Federalism, intergovernmental relations, and political culture in the states. Political and institutional aspects of state government.

256. Seminar in the American Presidency

(4) WOOLLEY

257. Seminar in Urban Government and Politics

(4) STAFF

258. Seminar in Politics and Population

(4) NASH

Prerequisite: graduate standing.

259. Seminar in Political Parties

(4) SMITH

An examination of a range of problems and issues in the study of American political parties and political activists. Special attention will be given to party reform.

260. Seminar in the Judicial Process

(4) STAFF

261. Seminar in Public Law

(4) NASH

262. Seminar in American Constitutional Law

(4) BINION, NASH, PRITCHETT

264. Seminar in American Jurisprudence

(4) BAKER

270. Theoretical Issues in International Political Economy

(4) COHEN

The focus of this seminar will be on theoretical issues at the leading edge of contemporary scholarship in the field of international political economy. A principle objective will be to identify key elements of an agenda for future research.

271. Micro International Relations

(4) NOEL

International relations at subsystemic levels of analysis, focusing on linkages between domestic factors and international bheavior. Theories of decision making processes, including individual characteristics, small-group and organizational effects, bureaucratic politics an dovernmental structures, public opinion, na dorganized influence groups.

272. Seminar in International Organization

(4-4) STAFF

Prerequisite: Political Science 225 or equivalent.

273A-B. Politics of the International Economics

(4-4) GORDON

Prerequisite: graduate standing. Political Science 273A is prerequisite to 273B.

275. Regional Subsystems in International Relations

(4) STAFF

Prerequisites: Political Science 225 or equivalent plus undergraduate or graduate work in area studies and/or substantive foreign policy studies.

276. Middle East Regional Politics

(4) NOEL

Examination of internal and external factors contributing to contemporary patterns of conflict and cooperation among Middle Eastern states and global powers. Insights from alternative conceptual frameworks.

277. Seminar in American Foreign Policy

(4) HANRIEDER

278. Seminar in Comparative Foreign Policy

(4) HANRIEDER

Military-strategic, economic-monetary, and political issues of the transatlantic community, East-West relatins, and domestic sources of foreign policy.

279. Seminar in Socio-Economic Basis of Political Change

(4) LIU

Comparative analysis of the political impact of agrarian development, urbanization, and economic growth in East Asian and West European countries, exploring the role of the state, authoritarianism, entrepreneurship, international linkage, and democratization.

280A. Soviet Domestic Politics

(4) KAPLAN

Prerequisite: Political Science 230 or equivalent.

Selected topics seminar focusing on new research in the field of Soviet domestic politics. Issues regularly included are: the impact of social change, nationalities, political structure, policy implementation, and the economy. Students will be expected to produce a research proposal.

280B. Soviet Foreign Policy

(4) KAPLAN

Prerequisite: Political Science 280A or equivalent.

Particular attention is devoted to recent important works in the field of Soviet foreign policy. Methodological and substantive issues are examined. Selected topics normally include: strategic theory, East-West relations, trade and the international monetary system, and linkage between Soviet domestic and foreign policy.

281. Comparative Ethnic Politics
(4) KAPLAN

Prerequisite: consent of instructor.

Comparative Ethnic Politics examines the political consequences of ethnicity. Theoretical approaches to issues addressing problems of multiethnic states will be examined in light of cases drawn from the industrialized democracies, the developing world, and the successor states of the Soviet Union.

282A. Comparative Theories of Development in Latin America
(4) LOPEZ-ALVES

A critical examination of comparative theories of development and their success to explain different economic outcomes in Latin America. Success and failure cases are compared and placed in the context of the world economy.

282B. The Economy and the Politics in Latin America
(4) LOPEZ-ALVES

The focus of this course is on the linkage between economics and politics. Several theories of development are tested in terms of their capacity to predict political outcomes in Latin America. The course also examines other cases outside the Latin America area.

283A. Seminar in Western European Politics
(4) MERKL

Political modernization, governmental structures, parties and elections of Western European political systems, with emphasis on Great Britian, France, Italy, and Germany.

283B. Seminar in Western European Politics
(4) MERKL

Political culture and politics of Western European political systems, with emphasis on France, Germany, Italy, and Great Britain, and on the impact of the great changes of 1989/1991, such as German unification, West-East European relations, the European Community, and European security.

284. Politics, Culture, and Change
(4) NASH

Comparative analysis of the interrelationships between political and cultural change in selected periods and countries. Emphasis on analysis and interpretation of a small number of major works of literature, art, and music illustrative of political crises.

285. Seminar in Chinese Politics
(4) LIU

286. Seminar in Japanese Politics
(4) FUKUI

288. Seminar in Revolution and Violence
(4) STAFF

Prerequisite: graduate standing or consent of instructor.

A critical examination of the theory and practice of revolution and political violence.

289. Seminar in Theories of Political Development
(4) FUKUI

Prerequisite: graduate standing.

290. Seminar in the Study of Public Administration
(4) MOORE

291. Seminar in Public Administration and Public Policy
(4) MOORE, WYNER

Prerequisite: graduate standing.

294. Public Policy and Administration of Natural Resources and the Environment
(4) STAFF

297. Seminar in Analysis of Public Policy
(4) WOOLLEY

Prerequsite: Political Science 205

A survey of different traditions of policy analysis. Includes methods of analysis, policy alternatives, and approaches to explaining policy choice.

298. Marine Policy Seminar
(4) STAFF

Prerequisites: graduate standing; undergraduate by special permission.

299A-B. Internship
(4-4) STAFF

Prerequisite: enrollment in the internship option (plan III) for the M.A. in political science. A total of 8 units of credit are given for academic work associated with an internship. First quarter graded in-progress; second quarter a letter grade given.

A substantial paper reporting on the internship or an associated policy problem is required.

500. Practicum for Teaching Assistants
(2-4) STAFF

No unit credit allowed toward advanced degree.

501A-B. Teaching Assistant Training
(2-2) DIGESER

Prerequisite: a two-quarter in-progress sequence course with grades for both quarters issued upon completion of Political Science 501B.

Designed to help graduate students prepare for future assignments as teaching assistants. Coursework normally includes discussions with faculty members and past or current teaching assistants, attendance at demonstration exercises, analysis of teacher performance with the use of audio-visual aids, etc.

502. Practicum for Teaching Associates
(2-4) STAFF

No unit credit allowed toward advanced degree.

503. Directed Research
(2-4) STAFF

504. Supervised Internship in Public Policy
(2-8) STAFF

593. Public Policy Internship
(4-8) STAFF

Prerequisites: at least two quarters of graduate work at UCSB.

594. Special Topics
(1-4) STAFF

Special seminar on research subjects of current interest.

595. Group Studies
(1-4) STAFF

Critical review of research in selected fields.

596AA-ZZ. Directed Reading and Research
(2-6) STAFF

597AA-ZZ. Individual Study for Master's Comprehensive Examinations and Ph.D. Examinations
(1-12) STAFF

No unit credit allowed toward advanced degree.

598AA-ZZ. Master's Thesis Research and Preparation
(1-12) STAFF

No unit credit allowed toward advanced degree.

599AA-ZZ. Ph.D. Dissertation Research Preparation
(1-12) STAFF

Probability and Statistics

For probability and statistics faculty, program information, and courses, see Statistics and Applied Probability.

Psychology

Department of Psychology,
Division of Mathematical, Physical, and Life Sciences,
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Telephone (805) 893-2791
Department Chair: Loy D. Lytle

Faculty

F. Gregory Ashby, Ph.D., Purdue University, Associate Professor *(perceptual and cognitive processes, mathematical psychology)*

Gerald S. Blum, Ph.D., Stanford University, Professor Emeritus

David H. Brainard, Ph.D., Stanford University, Assistant Professor *(human vision, machine vision, computational modeling , classification)*

Daphne B. Bugental, Ph.D., UC Los Angeles, Professor *(social development, social cognition and affect, social interaction)*

Harry J. Carlisle, Ph.D., University of Washington, Professor *(physiology of motivation: regulation of hunger, thirst, and temperature)*

Leda Cosmides, Ph.D., Harvard University, Assistant Professor *(evolutionary psychology, cognition, domain-specific reasoning)*

John W. Cotton, Ph.D., Indiana University, Professor Emeritus

Aaron Ettenberg, Ph.D., McGill University, Professor *(behavioral neuroscience, psychopharmacology, neurobiology of drug abuse, biological basis of reinforcement and motivation)*

John M. Foley, Ph.D., Columbia University, Professor *(visual perception)*

Alan J. Fridlund, Ph.D., University of Mississippi, Associate Professor *(facial expressions and bodily actions, emotions and social motives, imaginary audiences and social behavior, experimental psychopathology and evolutionary social psychology)*

Faith H. Gleicher, Ph.D., Ohio State University, Assistant Professor *(control motivation, affect, social cognition, persuasion)*

Walter C. Gogel, Ph.D., University of Chicago, Professor Emeritus

David L. Hamilton, Ph.D., University of Illinois, Professor *(social cognition, stereotypes, person perception, attribution processes)*

Mary Hegarty, Ph.D., Carnegie-Mellon University, Assistant Professor *(comprehension processes, spatial cognition, individual differences)*

Hsiu-Zu Ho, Ph.D., University of Colorado, Associate Professor *(behavioral genetics; cross-cultural, gender, and individual differences in behavioral development and in mathematics achievement)*

Gerald H. Jacobs, Ph.D., Indiana University, Professor *(visual system electrophysiology, comparative vision)*

Howard H. Kendler, Ph.D., University of Iowa, Professor Emeritus

Tracy S. Kendler, Ph.D., University of Iowa, Professor Emerita

Roberta L. Klatzky, Ph.D., Stanford University, Professor *(cognitive processes, spatial cognition, cognitive representation of movement)*

Stanley B. Klein, Ph.D., Harvard University, Assistant Professor *(social cognition, mental representation of self, person memory)*

Jack M. Loomis, Ph.D., University of Michigan, Professor *(visual perception, tactual perception, spatial cognition)*

Elijah P. Lovejoy, Ph.D., University of Pennsylvania, Lecturer with Security of Employment *(intercultural psychology)*

Loy D. Lytle, Ph.D., Princeton University, Professor *(developmental psychopharmacology and neurobiology; nutrition, brain function, and behavior; neurochemistry)*

Diane M. Mackie, Ph.D., Princeton University, Associate Professor *(persuasion, social influence, affect, intergroup processes, stereotypes)*

Richard E. Mayer, Ph.D., University of Michigan, Professor *(human learning, problem-solving, educational psychology, human-computer interaction, mathematical and scientific reasoning)*

Charles G. McClintock, Ph.D., University of Michigan, Professor *(social values, bargaining, and exchange)*

Deborah H. Olster, Ph.D., University of Michigan, Assistant Professor *(reproductive neuroendocrinology, sexual differentiation of the brain, neural basis of sexual behavior)*

Benjamin E. Reese, D.Phil., University of Oxford, Assistant Professor *(development and organization of the visual system, developmental neurobiology and neuroplasticity)*

Russell Revlin, Ph.D., Carnegie-Mellon University, Associate Professor *(reasoning, psycholinguistics, cognitive processes)*

Robert W. Reynolds, Ph.D., University of Buffalo, Professor Emeritus

A. Robert Sherman, Ph.D., Yale University, Senior Lecturer with Security of Employment *(behavioral psychotherapy)*

Affiliated Faculty

Larry Beutler, Ph.D. (Education)

Richard P. Duran, Ph.D. (Education)

Barbara S. Uehling, Ph.D. (Education)

Marta C. Valdez-Menchaca, Ph.D. (Education)

The psychology curriculum at UCSB is designed to provide students with an appreciation of the scientific study of behavior. Psychology represents an extremely broad discipline, ranging from the study of behavior of the simplest organisms to the behavior of humans and groups of humans in complicated situations.

Students interested in one of the psychology majors are urged to examine the upper-division course offerings to see if these are consonant with their interests in psychology. As students will note, courses dealing with humanistic psychology are not included in the UCSB psychology curriculum, nor does the department have a training program in the clinical applications of psychology.

On the undergraduate level, the department offers the B.A. degree in psychology and the B.S. in biopsychology. On the graduate level, the department offers the M.A. and Ph.D. degrees in psychology.

The departmental advisers, including academic peer advisers, a staff undergraduate adviser, and faculty advisers provide students with academic information and advice as well as assistance with career and graduate school preparation. Students are encouraged to become acquainted with faculty members and to consult with them about programs or academic plans.

Printed information concerning the major is also available from the undergraduate office. Included is a listing of upper-division course offerings which have been thematically grouped to assist students in the selection of courses appropriate to specialized interests and pursuits, such as developmental psychology, human information processing, and personality and psychopathology.

Psychology majors are encouraged to join Psi Chi, the Santa Barbara chapter of the National Honor Society in Psychology. Membership information is available from the undergraduate adviser.

After completing specific prerequisites, students with a bachelor's degree in psychology are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with a credential adviser in either the Graduate School of Education or the College of Letters and Science.

Undergraduate Program

Bachelor of Arts—Psychology

The major in psychology is recommended for students interested in obtaining a liberal arts education and understanding contemporary issues in psychology. The requirements for this major can be fulfilled with a variety of courses, so that students may choose to specialize in a given substantive area, or select a broader, more varied set of courses. Students in this major who plan to enroll in graduate programs should consult an adviser.

Students who complete the psychology major enter a variety of careers and graduate programs including business administration, law, recreation, social work, education, experimental psychology, and applied psychology. It is important to keep in mind that many of these professional careers require training beyond the undergraduate level and students with such interests should discuss their plans with an adviser as early as possible.

Students who do not enter the university as pre-psychology majors may declare the pre-psychology major after completing Psychology 1. Once students have successfully completed all pre-major requirements (see "Preparation for the Major," below), they may petition for full major status in the Department of Psychology office (Psychology Building 1332). Generally, students should have attained full major standing prior to the completion of 130 units. Admission to the pre-major does not guarantee admission to the full major.

Preparation for the major. Students must complete each of the following requirements before petitioning the department to change from pre-major to major status: (1) Psychology 1, 5 (or PSTAT 5P), and 7; (2) Mathematics 34A or the equivalent; (3) one science course from two of the following five areas:

A. Biology 20 or Natural Science 1C;
B. Biology 23 or Zoology 25;
C. Chemistry 25 or Natural Science 1B;
D. Physics 10 or Natural Science 1A;
E. Computer Science 5AA-ZZ.

In completing the six preparatory courses described above, students must complete the following criteria: (a) the courses must be completed with a combined grade-point average of 2.75 or better; (b) in no preparatory course can there be a grade lower than C-; (c) a grade of C- cannot be obtained in more than one of the six preparatory courses; and (d) none of the preparatory courses can be taken P/NP. Students will not be permitted to enroll in upper-division psychology courses numbered 110 or higher without first completing the pre-major.

Upper-division major. A total of 36 upper-division psychology units are required, distributed as follows. Sixteen units covering four of the following five areas:

A. Perception and Performance: 107, 110A,* 110B,* 118A,* or 136*;
B. Cognition: 108, 117,* 118B,* 118C,* 123*, 127,* or 128*;
C. Biopsychology: 106, 111,* or 116*;
D. Developmental Psychology: 104, 105, 142, or 149;
E. Social Psychology: 102; or Personality: 103 or 114*.

In addition, 20 units of upper-division psychology electives are required.

A maximum of 12 units may be taken from courses numbered 102-109. Students interested in pursuing research-oriented graduate study in psychology should choose upper-division courses from among those designated with an asterisk (*), when such an option exists, and should complete two laboratory courses from 110L, 111L, 114L, 116L, 117L, 119L, 169L, 112L, or 114L.

Bachelor of Science—Biopsychology

The biopsychology major is designed for students interested in an intensive study of the relationship between biological and behavioral function. The required courses involve a study of neurophysiology and neuroanatomy; biochemical, endocrine, and pharmacological regulations in the central nervous system; and the behavioral and psychological data related to these topics. The major is recommended for students planning a career in laboratory research (as laboratory technicians, research assistants, etc.) or in health-related sciences (requiring graduate work leading to the M.D. or Ph.D. degrees, for example).

Preparation for the major. The following courses or their equivalents are required: Psychology 1; Psychology 7; Biology 4A-B; Chemistry 1A-AL, 1B-1BL, 1C-1CL (or 1A-AL, 2B-BL, 2C-CL), 6A-B, 8A-B; Physics 6A-6AL, 6B-6BL, 6C-6CL; Mathematics 34A-B, and either Psychology 5 or PSTAT 5P or 5A.

Note: Psychology 106 is recommended for lower-division students who wish to enter the major. However, it may not be taken after or concurrently with Psychology 111.

Upper-division major. Forty-four to 46 upper-division units are required, distributed as follows: (A) Psychology 111 (only offered during fall quarter); (B) one course from the following: Psychology 110A, 110B, or 132; (C) two courses from the following: Psychology 110L, 111L, 116L or 169L; Biology 119AL; (D) four courses from the following: Psychology 113, 115, 116, 122, 123, 132 (if not used in Area B), 133A, 133B, 137, 153, 163AA-ZZ, or 168; and (E) 12 units of upper-division psychology electives.

Students interested in pursuing a graduate education in biopsychology upon completion of the major are strongly advised to enroll in Psychology 111L as one of their two lab course requirements.

Careful planning is required for biopsychology majors to graduate in a timely fashion. Students in the major should consult with the undergraduate adviser regarding the frequency and timing of upper-division course offerings.

Passed/Not Passed Option Within the Major

Psychology and biopsychology majors are permitted to take a maximum of 8 units from the following courses on a passed/not passed basis to fulfill the major requirements for either of the psychology majors: Psychology 135A-B-C, 142P-143P, 190AA-ZZ, 197A-B-C, 198, 199. Students who wish to take more than 8 units of the above courses or any other psychology courses on a passed/not passed basis may do so. However, such courses will not apply to the major requirements.

Undergraduate Honors Program

The Department of Psychology has a four-year honors program to augment the existing program in the College of Letters and Science. Enrollment in the psychology honors program is by petition to the department and is based upon academic achievement.

Students who are selected to participate will earn a wide variety of unique academic privileges. In addition to special honors seminar courses, honors students will be given extended library privileges, increased priority for class registration, and opportunities to enroll in graduate seminars.

The departmental program provides qualified students an opportunity for an in-depth and intellectually challenging study of psychology. The psychology honors classes, for example, will be restricted in size and will provide a level of discussion and participation not possible in traditional lecture classes. To help prepare for graduate training, honors students will conduct independent research under the supervision of a faculty adviser. The results of this research will form the basis of the honors thesis, which each student will be required to submit before the end of the senior year.

Students interested in participating in the psychology honors program should see the Department of Psychology's undergraduate adviser for further information.

Interdisciplinary Writing Program

Specialized writing classes, English 110PS, are linked to some departmental offerings each year. These classes are designed to increase students' ability to write good papers; writing assignments are based on the subject matter of psychology. Information about these offerings is available in advance of each quarter from the Interdisciplinary Writing Program.

Graduate Program

Graduate training is provided in biopsychology, human information processing, and social-personality psychology. In addition to departmental requirements, candidates for graduate degrees must fulfill the university requirements described in the chapter "Graduate Education at UCSB."

Admission

The major graduate program of the Department of Psychology consists of work leading to the Ph.D. degree. However, the M.A. degree is also awarded, either optionally to students admitted to the Ph.D. program or to those admitted to a terminal M.A. program. Applicants for admission to graduate study may choose either the Ph.D. or the terminal M.A. program. Admissions are made only for the fall quarter of any year. Requests for application materials will not be processed if received after January 5. The deadline for receipt of all application materials is January 15.

In addition to fulfilling the general requirements for admission to graduate status, the student must submit evidence of acceptable performance on the verbal, quantitative, and analytic portion of the Graduate Record Examination. The Graduate Record Examination in Psychology or in the student's area of undergraduate specialization is also recommended. Results of these examinations should be sent directly to the Department of Psychology. Normally, those admitted will have an undergraduate major in psychology. However, outstanding students who have majored in other areas are encouraged to apply.

Master of Arts—Psychology

Degree Requirements

Work toward the M.A. degree is optional for applicants admitted to the Ph.D. program. The optional M.A. degree is available under Plan 1 (thesis), or Plan 2 (comprehensive examination). Either plan also requires satisfactory performance in core courses and research courses with an acceptable short paper completed during the first year, summarizing the progress made in the research.

Students enrolled in the terminal M.A. program must satisfy the following two requirements: (1) completion of 48 units of graduate coursework; and (2) preparation of an acceptable thesis. For the full-time student, at least four quarters of work must be completed before the M.A. degree will be awarded. For the part-time student, all work toward the terminal M.A. degree should be completed no more than three years after admission.

Neither acceptance into nor successful completion of the terminal M.A. program will automatically provide admission into the Ph.D. program.

Doctor of Philosophy—Psychology

Degree Requirements

Students enrolled in the Ph.D. program must satisfy the following departmental requirements: (a) doctoral-level performance in six appropriate core courses, other graded non-research courses, and graded research courses; (b) satisfactory performance in ten approved courses beyond the six core courses; (c) satisfactory completion of a research paper equivalent to a master's thesis; (d) successful performance on a general candidacy examination, a specialty candidacy examination or paper, and a preliminary oral examination; (e) completion of an acceptable doctoral dissertation and acceptable performance on the doctoral oral defense of the dissertation; (f) satisfactory service as a teaching assistant.

Psychology Courses

LOWER DIVISION

These courses act as prerequisites for the majority of upper-division requirements and should be completed as early as possible.

1. General Psychology

(4) STAFF

The requirements of the course will include subject participation in low-risk psychological experiments or completion of a short paper.

An introduction to the subject matter and methods of psychology including the physiological basis of behavior, learning and memory, perception and cognition, social behavior and personality. (F,W,S,SS)

5. Introductory Statistics

(5) STAFF

Prerequisite: Mathematics 15 or equivalent. This course is the same as PSTAT 5P and is not open for credit to students with prior credit for lower-division coursework in statistics.

Probability, frequency distributions, descriptive statistics, sampling distributions of the mean and variance, basic logic of inference, hypothesis testing for one sample, related samples, and independent samples, correlation and regression, simple non-parametric tests.

6. Intermediate Statistics with Computer Applications

(5) STAFF

Prerequisite: Psychology 5 or equivalent.

Furthers students' knowledge of statistical inference and its application to data using statistical computer software. Topics will include one-way analysis of variance, two-way analysis of variance, and non-parametric procedures.

7. Introduction to Experimental Psychology

(5) STAFF

Prerequisites: Psychology 1 and 5 (or PSTAT 5P).

Introduction to the planning and execution of experiments in psychology and to the analysis and interpretation of data. (F,W,S,SS)

90A. First-Level Honors Seminar

(2) STAFF

Prerequisites: instructor approval is required. Students must be concurrently enrolled in Psychology 1.

Seminar for specially selected students. Advanced reading, writing, and discussion concerning topics raised in Psychology 1.

90B. First-Level Honors Seminar

(2) STAFF

Prerequisites: consent of instructor. Students must be concurrently enrolled in Psychology 5 or PSTAT 5P. Students who have completed Psychology 90A have priority for enrollment.

Seminar for specially selected students. Advanced reading, writing, and discussion concerning topics raised in the course.

90C. First-Level Honors Seminar

(2) STAFF

Prerequisites: instructor approval is required. Students must be concurrently enrolled in Psychology 7. Students who have just completed Psychology 90B have *priority for enrollment.*

Seminar for specially selected students. Advanced reading, writing, and discussion concerning topics raised in Psychology 7.

91A-B-C. Second-Level Honors Seminar
(2-2-2) STAFF

Prerequisites: open to psychology honors students with consent of instructor.

An advanced seminar designed exclusively for honors students in the major. The course will involve reading and discussion of selected topics in psychology.

UPPER DIVISION

Group I: Courses in this category are general survey courses. Although they count as upper-division courses for credit toward the major, they are generally not intended for students who are advanced majors. Psychology majors are encouraged to take the more advanced courses numbered 110 and above whenever possible. Psychology 107, and 108 are elementary survey courses which have advanced level counterparts. Psychology majors planning to pursue interests in these areas are advised to take the advanced level courses.

102. Social Aspects of Behavior
(4) STAFF

Prerequisite: open only to students who have completed at least one lower-division course in psychology, or six terms of college work.

An introduction to social psychology including person perception, attitude formation and change, interpersonal interactions, persuasion and influence, group processes, and social values.

103. The Abnormal Personality
(4) STAFF

Prerequisite: open only to students who have completed at least one lower-division course in psychology, or six terms of college work.

Analysis of disorders with psychogenic components, including neuroses, anxiety states, character disorders, psychosomatic illness, and psychoses.

104. Social and Emotional Development
(4) STAFF

Prerequisites: Psychology 1, 5 and 7.

A review of the biological, cognitive, and environmental influences on the social and emotional development of the child.

105. Developmental Psychology
(4) STAFF

Open only to students who have completed at least one lower-division course in psychology or six terms of college work.

An introduction to the scientific study of developmental processes, with particular focus on child development. Basic research and theory in major areas of child psychology will be examined.

106. Brain and Behavior
(4) STAFF

Prerequisite: open only to students who have completed at least one lower-division course in psychology, or have attained upper-division standing. May not be taken concurrently with or after Psychology 111 or 111L.

An examination of contemporary research and theory dealing with the relation between the brain and psychological variables.

107. Introduction to Perception
(4) STAFF

Not recommended if student intends to take either Psychology 110A, 110B, or 118A. May not be taken concurrently with or after Psychology 110A, 110B, 110L, or 118A. Open only to students who have completed at least one lower-division course in psychology, or six terms of college work.

An introductory course in perception open to students in all majors. A variety of demonstrations are used to allow the student ot experience the phenomena of perception. Current hypotheses and theories concerning the underlying psychological and biological processes are described.

108. Introduction to Cognitive Psychology
(4) STAFF

Prerequisite: Psychology 1. Not recommended if student intends to take either Psychology 117 or 118B. May not be taken concurrently with or after Psychology 117 or 118B.

An elementary course in such topics as pattern recognition and attention, memory, language, reasoning, and problem solving.

109. Applied Social Psychology
(4) STAFF

Prerequisite: Psychology 102.

This course is concerned with the affective, cognitive, motivational, and behavioral aspects of interpersonal functioning in social groups and organizations. Social psychological theories will be applied to social processes within educational, work, family, health care, and community settings.

Group II: This category includes advanced laboratory and lecture courses.

110A. Perception: Vision
(4) STAFF

Prerequisites: Open to Psychology and Biopsychology majors only. May not be taken concurrently with Psychology 107.

T course is an overview of visual percpetion. it covers a wide range of phenomena from the detection of simple stimuli to the identification of objects and events. Human performance, psychological theories, and biology will be considered.

110B. Perception: Other Senses
(4) STAFF

Prerequisites: open to Psychology and Biopsychology majors only. may not be taken concurrently with Psychology 107.

This course examines human perception emphasizing a non-visual sense. Typically, the focus will alternate from year-to-year between hearing and the chemical senses (i.e. smelling and tasting). Human performance, psychological theories, and biology will be considered.

110L. Laboratory in Perception
(5) STAFF

Prerequisites: Psychology 1, 5, 7, and one of the following: Psychology 110A, 110B, 118A, or 132. May not be taken concurrently with Psychology 107.

A laboratory course emphasizing the formulation and testing of experimental hypotheses in perception as related to problems selected by the student to be of special interest to him/her.

111. Basic Concepts in Biopsychology
(4) STAFF

Prerequisites: Psychology 1, 5, and 7; Chemistry 25 or equivalent; Biology 4A and 4B, or Zoology 40 and 40L; or consent of instructor. May not be taken before or concurrently with Psychology 106. Not open to students who have completed Psychology 113A.

An overview of the basic biological mechanisms important for behavior. (F)

111L. Laboratory in Biopsychology
(5) STAFF

Prerequisites: Psychology 111; one of the following: Psychology 113, 115, 132, 133A, 133B, 137, 153, or 163; or consent of instructor. Strongly recommended for biopsychology majors. Not open to students who have completed Psychology 113L.

A study of techniques and experimentation in biopsychology.

112L. Laboratory in Social Behavior
(5) STAFF

Prerequisites: Psychology 1, 5, 7 and 102. Lecture and laboratory.

Methods, techniques, and typical experimental research in social psychology.

113. Regulatory Mechanisms in Biopsychology
(4) STAFF

Prerequisite: Psychology 111 or consent of instructor.

An examination of homeostatic regulatory mechanisms important for behavior.

114. Personality
(4) STAFF

Prerequisites: Psychology 1, 5, and 7 or consent of instructor.

An introduction to theories of personality (e.g., psychodynamic, existential, humanistic, and social learning theories) with special attention to normal/abnormal development, the role of life situations in shaping personality, and to related experimental research.

114L. Laboratory in Personality
(5) STAFF

Prerequisites: Psychology 1, 5, 7 and 114.

Topics of current interest in personality with concurrent experimentation, analysis of data, and preparation of laboratory reports.

115. Neuropharmacology of Psychoactive Drugs
(4) STAFF

Prerequisites: Psychology 111, Biology 119A, 119B, or 119C; or consent of instructor.

An examination of the pharmacological and neurochemical mechanisms influencing the actions of psychoactive drugs.

116. Conditioning and Learning
(4) STAFF

Prerequisites: Psychology 1, 5, 7.

Principles of instrumental and classical conditioning. Topics may include: avoidance learning, stimulus generalization, discrimination, and other aspects of learning by animals and humans.

116L. Laboratory in Animal Learning
(5) STAFF

Prerequisites: Psychology 1, 5, 7, and 116. May be taken concurrently with Psychology 116.

Methods, techniques, and typical experimental research in animal learning.

117. Human Learning
(4) STAFF

Prerequisites: Psychology 1, 5, and 7. May not be taken concurrently with Psychology 108. Credit not given for both Psychology 117 and 118B.

Principles of human learning, memory, and cognition. Topics may include: concept formation, skill learning, verbal learning, memory for meaning, and other cognitive processes.

117L. Laboratory in Human Learning
(5) STAFF

Prerequisites: Psychology 1, 5, 7, and either 117 or 118B. May be taken concurrently with Psychology 117 or 118B.

Methods, techniques, and typical experimental research in human learning.

118A. Human Information Processing
(4) STAFF

Prerequisites: Psychology 1, 5, 7. Psychology 107 and 108 are not recommended if student intends to take the 118A-B-C series. May not be taken concurrently with Psychology 107.

This is the first quarter of an integrated three-quarter sequence of courses concerned with the phenomena of information processing in normal adult humans and the structures and processes that underlie these phenomena. Concerned primarily with sensing, perceiving, and recognizing.

118B. Human Information Processing
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 118A. Psychology 107 and 108 are not recommended if student intends to take the 118A-B-C series. May not be taken concurrently with Psychology 108. Credit not given for both Psychology 118B and 117.

Focuses on memory and language. The principle topics include: the internal representation of knowledge in general and of language, the "architecture" of the human information processing system, the processes involved in remembering and in language production and comprehension.

118C. Human Information Processing
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 118B. Psychol-

ogy 107 and 108 are not recommended if student intends to take the 118A-B-C series. Credit is not given for both Psychology 118C and 128.

The third quarter of the 118A-B-C series. Concerned with complex, high-level information processing. Among the phenomena considered are problem solving, concept formation, deductive reason, and thinking. Mathematical and computer approaches to these phenomena are included.

119L. Laboratory in Developmental Psychology
(S) STAFF

Prerequisites: Psychology 1, 5, 7, and 105. May be taken concurrently with Psychology 105.

A laboratory course emphasizing the methods, techniques, and typical research procedures in developmental psychology.

Group III and Group IV: Courses in these categories are designed for the advanced student with special interests in substantive and theoretical areas of psychology.

120. Formal Models in Psychology
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and Mathematics 1 or equivalent. Upper-division major or consent of instructor.

An analysis of selected mathematical and computer models of psychological processes with consideration given to the value and weakness of such theories in understanding behavior.

121. Psychological Measurement
(4) STAFF

Prerequisites: Psychology 1, 5, and 7. Upper-division major or consent of instructor.

Consideration both of the theoretical foundations of psychological measurement, including problems of reliability, validity, norms, and prediction, and of the techniques by which aptitude, achievement, and personality tests are constructed and evaluated.

122. Motivation
(4) STAFF

Prerequisites: Psychology 1, 5, and 7. Upper-division major or consent of instructor.

This course examines the evolution of ideas concerning the determinants of human and animal behavior. Historical and contemporary theories of motivation will be presented and evaluated in the light of recent research findings.

123. Cognitive Neuroscience
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and an upper-division course in cognitive psychology or biopsychology; or consent of instructor.

This course will examine the neurological basis of cognition. The material will be drawn from research in psychology, clinical neurology, and the neurosciences with brain injured and healthy humans as well as nonhuman subjects. Topics covered include memory, language, and perception.

124. Educational Psychology
(4) STAFF

Prerequisites: Psychology 1, 5, and 7.

An introduction to research and theory on how instruction affects student learning. Topics may include: development of learning and thinking strategies, instructional methods, learning in subject matter areas, individual differences, and classroom processes.

126. Historical Foundations of Modern Psychology
(4) STAFF

Prerequisite: Psychology 1, 5, and 7, and consent of instructor.

An analysis of the epistemological bases of the discipline of psychology combined with a historical review of its development followed by a description of the current status of the field.

127. Psychology of Language
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and one of the following: Psychology 108, 117, or 118B.

This psychological nature of linguistic theory; linguistic structure as a factor in learning, perception, and comprehension; language acquisition; multilingualism; models of language.

128. Human Thinking and Problem Solving
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and one of the following: Psychology 108, 117, or 118B. Credit not given for both Psychology 128 and 118C.

An examination of theories and supporting evidence regarding the nature of human thought processes.

129. Behavioral Approaches to Psychotherapy
(4) STAFF

Prerequisite: Psychology 1, 5, 7, and either 103 or 114. Upper-division major or consent of instructor.

An introduction to the basic principles and methods of behavior modification, including desensitization, operant conditioning, social modeling, expressive training, and aversion therapy. Related discussion concerning the identification of maladaptive behavior, the specification of treatment operations, and the criteria for assessing therapeutic change.

130. Visual System Analysis
(4) STAFF

Prerequisites: open to upper-division students only; open to non-majors; calculus, linear algebra and some computer programming experience recommended; consent of instructor required. Same course as ECE 177.

A systems approach to understanding vision. Topics will typically include transduction, signal detection, space and motion perception, color vision, and pattern classification. Special emphasis will be placed on comparing computational models with quantitative descriptions of human visual performance.

131. Psychodynamic Approaches to Psychotherapy
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and either 103 or 114. Upper-division major or consent of instructor.

An introduction to the basic concepts of psychodynamically oriented psychotherapy. Particular emphasis is directed toward the traditional psychoanalytic, as well as the Neo-Freudian approaches to the treatment of maladaptive behavior patterns.

132. Sensory Processes
(4) STAFF

Prerequisites: Psychology 106 or 111; Biology 4A and 4B, or Zoology 40 and 40L, or their equivalencies; or consent of instructor.

Physiological and psychophysical approaches to the study of sensory systems.

133A. Psychopharmacology
(4) STAFF

Prerequisites: Psychology 111 or 115; or Biology 119A, 119B, or 119C; or consent of instructor.

An introduction to the biochemical, physiological, and behavioral effects of psychoactive drugs.

133B. Psychopharmacology
(4) STAFF

Prerequisite: Psychology 133A or consent of instructor.

A continued examination of the biochemical, physiological, and behavioral effects of psychoactive drugs.

134. Cooperation, Competition, and Conflict
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 102. Upper-division major or consent of instructor.

A study of the psychological and social psychological bases of intragroup and intergroup cooperation, competition, and conflict in animal and human behavior.

135A-B-C. Field Experience in Psychological Settings
(4-4-4) STAFF

Prerequisites: Psychology 1, 5, 7, and either Psychology 103, 114, or 129; majors with senior standing; and consent of instructor. The student must take Psychology 135A and 135B in sequence, while continuation in Psychology 135C is optional. Since enrollment is limited, interested students are advised to contact the instructor at least several weeks in advance of the fall quarter.

Supervised field experience in settings providing psychological services with opportunities for observation and participation. Students will spend approximately six hours per week in psychological settings, attend weekly class meetings, read related material, and prepare written reports. (F,W,S)

136. The Psychology of Skill
(4) STAFF

Prerequisites: Psychology 1,5,7, and one of the folliwng: Psychology 108, 117, 118B or 118C. Open to junior and senior psychology majors or consent of instructor.

An analysis of motor coordination and information-processing skills from the points of view of underlying mechanisms, acquisition, and individual differences.

137. Hormones, Brain Function, and Behavior
(4) STAFF

Prerequisite: Psychology 111 or consent of instructor.

The role of hormones in the regulation of behavior.

138. Interpersonal Processes
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 102. Upper-division major or consent of instructor.

Review of research and theory in social perception and social cognition, emphasizing the role of cognitive processes in impression formation, attribution theory, social judgements, and stereotyping.

139. Psychology of Sex Differences
(4) STAFF

Prerequisites: Psychology 1, 5, and 7.

The nature of sex differences will be studied from the viewpoint of psychology. Critical issues include: What sex differences have been demonstrated to exist? What are the underlying causes (e.g., biology, socialization) of existing sex differences?

140. Social Influence
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 102.

Review of research and theory in the domain of social influence, with particular emphasis on social power, compliance, conformity, majority and minority influence, group influence, obedience, and the impact of social norms on behavior.

141. Perceptual Development
(4) STAFF

Prerequisites: Psychology 1, 5, 7, and one of the following: Psychology 107, 118A, 110A, or 110B.

This course concerns perceptual development from birth to maturity with an emphasis on perceptual learning and development in the human. Such topics as critical periods and the development of space and object perception in the neonate will be considered.

142. Cognitive Development
(4) STAFF

Prerequisites: Psychology 1, 5, 7; and 105 or consent of instructor.

Development of cognition from birth to maturity. Piagetian, Soviet, and information processing theories and research. Primary emphasis on normal human development; secondary emphasis on abnormal and animal cognition. Infant perception and cognition, early childhood competencies, cognitive underpinnings of academic skills.

142P. Practicum in Learning Disabilities
(S) STAFF

Prerequisites: Psychology 142 and concurrent enrollment in Psychology 142S. Open only to senior majors or by consent of instructor. Only 5 units may be taken in the Psychology 142P-143P series.

Field experience in conjunction with the seminar in learning disabilities. Students will work under the supervision of a special education teacher at a local school four half-days a week. Focus will be on children with disorders in perception, attention, language, learning, memory, or problem solving.

Relevant psychological research and theory will be the focus of the accompanying seminar.

142S. Seminar in Learning Disabilities

(3) STAFF

Prerequisites: Psychology 142 and concurrent enrollment in Psychology 142P. Open only to senior majors or by consent of instructor. Only 3 units may be taken in the Psychology 142S-143S series.

Coursework in conjunction with the practicum in learning disabilities. A weekly two-hour seminar dealing with psychology research and theory relevant to learning disabilities. Each student will present and write a paper on a relevant topic.

143P. Practicum in Social Development

(5) STAFF

Prerequisites: Psychology 143 and concurrent enrollment in Psychology 143S. Open only to senior majors or by consent of instructor. Only 5 units may be taken in the Psychology 142P-143P series.

Field experience in conjunction with the seminar in social development. Students will work under the supervision of an appropriate staff member at a local agency four half-days a week. Focus will be on developmental problems.

143S. Seminar in Social Development

(3) STAFF

Prerequisites: Psychology 143 and concurrent enrollment in Psychology 143P. Open only to senior majors or by consent of instructor. Only 3 units may be taken in the Psychology 142S-143S series.

Coursework in conjunction with the practicum in social development. A weekly two-hour seminar dealing with social, emotional, and behavioral problems in childhood. Each student will present and write a paper on a relevant topic.

145. Psychological Aspects of Decision Making

(4) STAFF

Prerequisites: Psychology 1,5,7, and 102.

This course will examine psychological aspects of uncertainty, preference, choice with focus on descriptive behavioral phenomena. Issues in group decision making will be covered. Lectures will be augmented by computer laboratory. Enrollment will be limited.

146. Social Values, Interdependence, and Behavior

(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 102. Upper-division major or consent of instructor.

A review of the biological, social, and cultural determinants of social values, and their relationship to threat, exchange, and integrative systems as these regulate interpersonal behaviors. Course will combine lectures and student presentations and will meet for two, two-hour sessions each week.

147. Attitude Change and Persuasion

(4) STAFF

Prerequisite: Psychology 1,5,7, and 102.

Research and theory of attitudes (particularly their formation and change) will be reviewed. The relationships between cognitive, affective, and behavioral processes will be emphasized.

148. The Psychology of Self

(4) STAFF

Prerequisites: Psychology 1, 5, 7, and 102.

This course will examine the self from social and cognitive perspectives. Topics will include (a) How we come to know who we are and what we are like, (b) How we structure knowledge about the self in our minds, and (c) How we use this self-knowledge to guide and direct our behavior.

149. Introduction to Behavioral Genetics

(4) STAFF

Prerequisites: Psychology 1, 5, and 7.

This course will cover historical perspectives on evolution and genetics, basic principles of molecular, population, and quantitative genetics with focus on behavioral phenotypes, specific methods in human and animal behavioral genetics, and applications of these methods in various behavioral domains.

150. Advanced Analysis of Data in Psychology

(5) STAFF

Prerequisites: Psychology 1, 5, and 7. Upper-division major or consent of instructor. Lecture and laboratory.

Application of statistical methods to the design and analysis of psychological investigations and to the interpretation of quantitative data in psychology.

151. Computer Applications in Psychology

(4) STAFF

Prerequisites: Psychology 1, 5, 7, and a working knowledge of BASIC. Upper-division major or consent of instructor.

An introduction to the use of computers in psychology. Focus will be on computer control of experiments and computer simulation of psychological processes.

153. Human Biopsychology

(4) STAFF

Prerequisites: Psychology 111 and senior standing; or consent of instructor.

An examination of biopsychological mechanisms important for normal and abnormal patterns of human behavior.

154. Intercultural Psychology

(4) STAFF

Prerequisite: enrollment only with consent of instructor. Students with extensive experience or contact with a second culture are especially encouraged to enroll.

Misperceptions, miscommunications, and meaning shifts when people first live in a new culture; intercultural experience as a source of understanding of one's own identity and culture; ethnocentrism of hosts and sojourners; value differences revealed by and produced during intercultural living.

160AA-ZZ. Special Topics in Psychology

(4) STAFF

Prerequisites: Psychology 1, 5, 7, and consent of instructor. Course may be repeated once and up to 8 units major credit will be given providing letter designations are different.

Lectures in special areas of interest in contemporary psychology. Consult the department office regarding proposed course topics.

163AA-ZZ. Contemporary Issues in Biopsychology

(4) STAFF

Prerequisites: Psychology 111, and consent of instructor, and one of the following: Psychology 113, 115, 116, 122, 132, 133A, 133B, 137, or 153. Course may be repeated once provided letter designations are different.

An examination of special topics of current importance in biopsychology. The content of this course will vary, and information on the course content may be obtained in the office of the Department of Psychology.

168. Development and Plasticity of the Brain

(4) STAFF

Prerequisite: Psychology 111 or Biology 105; or consent of instructor.

An examination of the major developmental events producing the organization and connectivity of the nervous system.

169L. Laboratory in Neuroanatomy

(5) STAFF

Prerequisite: Psychology 111 or Biology 105; and consent of instructor.

A combined laboratory/lecture course examining the organization and connectivity of the mammalian nervous system. Topics covered will include neurohistological techniques; neurology and neuropsychology; comparative neuroanatomy.

190AA-ZZ. Seminars in Psychology

(2) STAFF

Prerequisites: Psychology 1, 5, 7, and consent of instructor. Course may be repeated twice and up to 6 units major credit will be given providing letter designations are different.

Small group seminars in selected areas for advanced undergraduates. Students may suggest seminars to be organized under the direction and sponsorship of faculty members.

196H. Honors Seminar in Psychology

(4) STAFF

Prerequisites: Psychology 1, 5, 7; 16 upper-division units in psychology from UCSB including one Group [illegible] course; upper-division major; and consent of instructor. Students must have a minimum 3.5 overall grade-point average, and a minimum 3.5 upper-division major grade-point average. All qualified students will be invited to apply in the psychology office at the end of fall quarter. Students not meeting the minimum requirements may be nominated by a member of the faculty. All final decisions for enrollment will be made by the coordinator of the seminar.

The honors seminar is a series of weekly meetings with individual faculty representing diverse areas within psychology. Background readings are required for each meeting. Full participation in the seminar is required. The honors seminar is offered on a letter-grade basis only.

197A-B-C. Honors Research in Psychology

(4-4-4) STAFF

Prerequisites: Psychology 196H and departmental approval. Students enroll in the Education Abroad Program during their junior year and, hence, unable to take Psychology 196H may still be permitted to enroll; please see department undergraduate advisor. Psychology 197A-B-C is a three-quarter sequence course with the final grade issued upon completion of 197C. No more than 12 units of Psychology 197A-B-C, 198, and 199 may be applied toward fulfilling major requirements.

Independent study under supervision of faculty member, involving either design and execution of independent research project or scholarly analysis and critique of theoretical and research literature pertaining to substantial issues. Honors thesis qualifies student for distinction in major upon graduation.

198. Readings in Psychology

(1-4) STAFF

Prerequisites: students must (1) have upper-division standing; (2) a minimum 3.0 grade-point average for the preceding three quarters; (3) completed at least two upper-division courses in psychology. Open only to upper-division majors or by consent of instructor. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Psychology 198 courses are limited to no more than 4 units in one quarter. No more than 12 units combined of 197A-B-C/198/199 courses may be applied toward fulfilling the psychology and biopsychology major requirements.

Readings in psychology under the guidance of a faculty member in the department. Students wishing to enroll should prepare a short plan of study.

199. Independent Research in Psychology

(1-4) STAFF

Prerequisites: students must have (1) upper-division standing; (2) a minimum 3.0 grade-point average for the preceding three quarters; (3) completed at least two upper-division courses in psychology. Students are limited to 5 units per quarter and 30 total in all 198/199 courses combined. Psychology 199 couses are limited to no more than 4 units in one quarter. No more than 12 units combined of 197A-B-C/198/199 courses may be applied toward fulfilling psychology and biopsychology major requirements.

Independent research under the guidance of a faculty member in the department. Students wishing to enroll should prepare a short plan of study for their research.

GRADUATE COURSES

Full graduate standing in psychology or consent of instructor is prerequisite to all graduate offerings except 592AA-ZZ.

211L. Laboratory in Biopsychology

(4) STAFF

Prerequisite: Psychology 229 or consent of instructor. Strongly recommended for graduate students in biopsychology.

A study of the techniques and experimentation in biopsychology. Offered concurrently with Psychology 111L, but graduate students must complete and independent research project in consultation with the instructor.

213. Regulatory Mechanisms in Biopsychology

(4) STAFF

Prerequisites: graduate status and consent of instructor.

An examination of the homeostatic regulatory mechanisms important for behavior. Offered concurrently with Psychology 113, but graduate students will be required to complete additional reading and writing assignments.

215. Neuropharmacology of Psychoactive Drugs

(4) STAFF

Prerequisites: graduate status and consent of instructor.

An examination of the pharmacological and neurochemical mechanisms influencing the actions of psychoactive drugs. Offered concurrently with Psychology 115, but graduate students will be required to complete additional reading and writing assignments.

216. Conditioning and Learning

(4) STAFF

Prerequisites: graduate status and consent of instructor.

Principles of instrumental and classical conditioning. Topics may include: avoidance learning, stimulus generalization discrimination, and other aspects of learning by animals and humans. Offered concurrently with Psychology 116, but graduate students will be required to complete additional reading and writing assignments.

216L. Laboratory in Animal Learning

(4) STAFF

Prerequisite: Psychology 229 or consent of instructor.

Methods, techniques, and typical experimental research in animal learning. Offered concurrently with Psychology 116L, but graduate students must complete an independent research project in consultation with the instructor.

221A. Design and Measurement

(4) STAFF

Experimental design and statistical analysis in psychological research. Includes basic probability, sampling and distribution theory, hypothesis testing, and estimation.

221B. Design and Measurement

(4) STAFF

Prerequisite: Psychology 221A or consent of instructor.

Experimental design and statistical analysis in psychological research. Analysis of variance and related topics.

221C. Multivariate Analysis in Psychology and Related Social Sciences

(4) STAFF

Prerequisites: Psychology 221A and 221B or consent of instructor.

The use in psychology of the general linear model, multiple regression, discriminant function analysis, factor-analysis, and principal components analysis.

222. Interpersonal and Intergroup Decision Making

(4) STAFF

Examination of interpersonal decision making; rules governing social decisions; threat, exchange, and integrative systems of social influence and choice: theories of social interdependence; and intergroup influence and choice.

223. Personality

(4) STAFF

Structure, development, and dynamics of personality. Consideration of major personality theorists.

224. Learning

(4) STAFF

Introduction to contemporary methodological and theoretical developments in the field of learning.

225. Motivation

(4) STAFF

Analysis of contemporary theories and models of motivation.

226. Cognitive Development

(4) STAFF

Discusses the concept of cognitive development, its psychobiological basis, and representative psychobiological, information-processing, Piagetian, and linguistic theories of cognitive development.

227. Human Memory and Cognitive Processes

(4) STAFF

Survey of theoretical approaches and empirical findings in the areas of learning, memory, psycholinguistics, and cognitive processing. Topics include structure and process models of memory, nature of the information-processing approach, and related experimental methodology and findings.

228. Perception

(4) STAFF

Analysis of psychophysical relations in sensory processes with stress on detection, scaling, discrimination, spatial and temporal resolution, and the interaction of cue systems in perceptual behavior.

229. Physiological Psychology

(4) STAFF

Examination of neural and endocrine mechanisms underlying vertebrate motivational systems.

230. Psychophysiology of Vision

(4) STAFF

Consideration of the physiological and psychophysical data bearing on the major features of vision in vertebrates.

231. Neural Basis of Cognition

(4) STAFF

This course will examine the neurological basis of cognition. The material will be drawn from research in psychology, clinical neurology, and the neurosciences with brain injured and healthy humans as well as nonhuman subjects. Topics covered include memory, language, and perception.

232. Human Performance

(4) STAFF

The course covers topics in cognitive and motor performance from an information processing perspective. Representative topics include knowledge representations underlying performance, cognitive and motor skills, learning to perform, and expert/novice differences.

233A. Psychopharmacology

(4) STAFF

Prerequisites: graduate status and consent of instructor.

An introduction to the biochemical, physiological, and behavioral effects of psychoactive drugs. Offered concurrently with Psychology 133A, but graduate students will be required to complete additional reading and writing assignments.

233B. Psychopharmacology

(4) STAFF

Prerequisites: graduate status and consent of instructor.

A continued examination of the biochemical, physiological, and behavioral effects of psychoactive drugs. Offered concurrently with Psychology 133B, but graduate students will be required to complete additional reading and writing assignments.

234. Text Comprehension

(4) STAFF

This course covers theoretical and empirical accounts of the psychological processes underlying text comprehension, from low level processes (e.g. word recognition) to higher levels (e.g. inference). Representative topics include models of text comprehension, individual differences, and comprehension of technical text.

235. Hormones, Brain Function and Behavior

(4) STAFF

Prerequisites: graduate status and consent of instructor.

The role of hormones in the regulation of behavior. Offered concurrently with Psychology 137, but graduate students will be required to complete additional reading and writing assignments.

236. Language Development

(4) STAFF

Prerequisite: consent of instructor. Same course as Education 202A.

This course describes theoretical and empirical accounts of the knowledge representations and psychological processes underlying language comprehension and production. Representative topics include discourse processing; conversational interaction; memory for words, sentences and text; metalinguisitic skills; language development.

237. Cognition

(4) STAFF

An in-depth analysis of advanced topics in human cognition. The course will include discussion of the cognitive processes involved in areas such as human thinking, problem solving, memory, and learning.

238. Social Cognition

(4) STAFF

Review of current research in person perception, social categorization, and social judgment.

239. The Social Psychology of Intergroup Relations

(4) STAFF

Prerequisite: consent of instructor.

Surveys the major social psychological theories of intergroup relations and the social psychological processes that facilitate intergroup conflict and its reduction.

240. Social Influence

(4) STAFF

Course covers the goals of social influence, the major cognitive, motivational, and associationistic theories of attitude change, conformity, and the attitude/behavior relationship.

243. Behavior Modification

(4) STAFF

Survey of behavior modification procedures and the theories underlying their development. Topics include systematic desensitization and variants thereof, assertive training, drugs, operant conditioning procedures, hypnosis, extinction procedures, and aversive conditioning. Prior familiarity with learning theories required.

244. Psychopathology

(4) STAFF

Empirical approaches to understanding the antecedents, processes, and modification of psychopathology.

245 Selected Topics in Cognitive Development

(4) STAFF

Prerequisites: Psychology 226, and full graduate standing in psychology or consent of instructor.

An in-depth analysis of selected topics from cognitive development. Representative topical areas are infant learning and memory, the development of logical reasoning, and mathematical and spatial cognition.

247. Behavorial Genetics

(4) STAFF

The course will cover 1) basic principles of quantitative genetics with focus on behavorial phenotypes; 2) methodology utilized in behavorial genetics; and 3) applications of these emthods in various domains of behavorial development (e.g. cognition, personality, and psychopathology.)

248. The Self and Social Psychology

(4) STAFF

This course examines the self from a social cognition perspective. Topics include the basis for self-knowledge, the mental representation of self-knowledge, and the effects of this knowledge on behavior.

249. Social Development

(4) STAFF

Prerequisite: undergraduate course in developmental psychology, or consent of instructor.

Course will cover the application of biological, cognitive developmental, and social cognition approaches to social development in infancy and childhood. Topics will include: attachment processes, emotional development, social inference development, moral development, gender role development, and developmental psychopathology.

250. Decisional and Social Processes
(4) STAFF

Prerequisite: graduate standing in psychology, or consent of instructor.

A review of the psychological and social bases of decision making, choice behavior, and various patterns of social interaction.

251. Computer Applications in Psychology
(4) STAFF

An introduction to the use of computers in psychology. Focus will be on computer control of experiments and computer simulation of psychological processes.

260. Historical Foundations of Modern Psychology
(4) STAFF

An analysis of the epistemological bases of the discipline of psychology combined with a historical review of its development followed by a description of the current status of the field.

261. Conceptual Problems in Psychology
(4) STAFF

Analytic techniques of philosophy of science applied to historical and contemporary systems of psychology.

262. Formal Models
(4) STAFF

This course concentrates on mathematical models for behavior. Several specific models and programs are discussed in detail, and these formal theories are compared with more informal, verbal theories.

263A. Computer Simulation of Cognitive Processes
(4) STAFF

Review of research and techniques in computer simulation of intelligent behavior. Processes to be considered include thinking, learning, understanding, problem-solving, and intelligent tutoring. Techniques include advanced languages, control structures (pattern-directed and goal-directed), knowledge structures (declarative vs. procedural).

263B. Computer Simulation of Cognitive Processes
(4) STAFF

Treatment of additional topics such as those listed under Psychology 263A.

268. Development and Plasticity of the Brain
(4) STAFF

Prerequisites: graduate status and consent of instructor.

An examination of the major developmental events producing the organization and connectivity of the nervous system. Offered concurrently with Psychology 168, but graduate students will be required to complete additional reading and writing assignments.

269L. Laboratory in Neuroanatomy
(4) STAFF

Prerequisite: Psychology 229 or consent of instructor.

A combined laboratory/lecture course examining the organization and connectivity of the mammalian nervous system. Topics include neurohistological techniques; neurology and neurophysiology; comparative neuroanatomy. Offered concurrently with Psychology 169L, but graduate students must complete an independent research project in consultation with instructor.

271. Spatial Perception
(4) STAFF

An examination of experimental, methodological, and theoretical approaches to the study of the perception of extent and the interaction of spatial and other characteristics in the achievement of a stable visual world.

285. Cognitive and Motivational Factors in Personality Development
(4) STAFF

Prerequisite: Psychology 226 or consent of instructor.

The origins of a few social-motivational systems (e.g., moral, achievement) will be examined from several different theoretical perspectives. The interplay of cognitive and motivational processes will be emphasized, and stage-theoretic and attributional approaches to this problem will be considered.

590A-B-C. Seminar on Teaching of Psychology
(1-1-1) STAFF

Prerequisite: open to psychology students with graduate standing; seminar is required of all new teaching assistants in the Department of Psychology.

Seminar designed to prepare psychology graduate students for various roles related to the teaching of undergraduate psychology courses. Topics may include leading discussions, preparing and grading exams, conferencing, evaluating writing, ethical issues, lecturing effectively, and using audio-visual aids.

592AA-ZZ. Special Interest Group Research Seminar
(1) STAFF

Research seminar for special interest groups in psychology. Each special interest group has its own letter designation available in department office.

593. Professional Skills for Academic Psychologists
(3) STAFF

Prerequisite: priority will be given to students who have successfully completed their doctoral candidacy exams.

A discussion of practical issues related to securing and maintaining an academic position within a university/college environment. Topics may include writing grants, preparing a vitae, the job interview, tenure, conference presentations, lecture preparation and presentation.

594AA-ZZ. Special Topics
(3) STAFF

Special seminar on research subjects of current interest. Each faculty member has their own letter designation available in department office.

595. Independent Readings for M.A.
(2-12) STAFF

No more than 8 units total may be taken toward credit for the M.A.

The purpose of this course is to provide supervised readings on selected topics.

596. Directed Reading and Research
(2-12) STAFF

Required of all first-, second-, and third-year psychology graduate students. Minimum of 2 units per quarter. No more than half the units necessary for the master's degree may be taken in Psychology 596.

The purpose of this course is to provide supervised experience in experimental design and laboratory procedures on selected topics, including the formulation of experimental problems, discussion of relevant literature, and the analysis and interpretation of experimental results.

597. Individual Study for Ph.D. Examinations
(1-12) STAFF

No unit credit allowed toward advanced degree.

Preparation for Ph.D. examinations under supervision of chair of student's doctoral committee.

598. Master's Thesis Research and Preparation
(2-12) STAFF

No unit credit allowed toward advanced degree.

Research and preparation for the master's thesis.

599. Dissertation Research and Preparation
(2-12) STAFF

Empirical and theoretical investigations of special problems in psychology in relation to dissertation research.

Religious Studies

Department of Religious Studies,
Division of Humanities and Fine Arts,
South Hall 4607;
Telephone (805) 893-3578
Department Chair: Ninian Smart

Faculty

Catherine L. Albanese, Ph.D., University of Chicago, Professor *(American religious history, religion and American culture)*

Juan E. Campo, Ph.D., University of Chicago, Associate Professor *(history of religions—Islam, Arabic)*

Walter H. Capps, Ph.D., Yale University, Professor *(religion in western culture)*

W. Richard Comstock, Ph.D., Union Theological Seminary, Professor Emeritus

Wilbur M. Fridell, Ph.D., UC Berkeley, Professor Emeritus

W. Randall Garr, Ph.D., Yale University, Associate Professor *(Northwest Semitic languages)*

Allan Grapard, Diploma of Advanced Studies and Research, National Institute for Oriental Languages and Civilizations, Paris, Associate Professor *(history of religions—Japan)*

Phillip E. Hammond, Ph.D., Columbia University, Professor *(sociology of religion)*

Richard D. Hecht, Ph.D., UC Los Angeles, Professor *(history of religions, Judaic studies*

Barbara A. Holdrege, Ph.D., Harvard University, Assistant Professor *(comparative history of religions, Indian studies, Judaic studies)*

Gerald J. Larson, Ph.D., Columbia University, Professor *(Sanskrit, philosophy and history of religions—India)*

Charles H. Long, Ph.D., University of Chicago, Professor *(history of religions, African religions, religion in the western hemisphere)*

Robert S. Michaelsen, Ph.D., Yale University, Professor Emeritus

Raimundo Panikkar, Ph.D., D.Sc., University of Madrid; Th.D., University of Rome, Professor Emeritus

Birger A. Pearson, Ph.D., Harvard University, Professor *(Christian origins, Hellenistic religions)*

William Powell, Ph.D., UC Berkeley, Associate Professor *(history of religions—China)*

Dwight F. Reynolds, Ph.D., University of Pennsylvania, Assistant Professor *(Arabic languages and literatures, folklore and folklife)*

Wade Clark Roof, Ph.D., University of North Carolina, Professor *(sociology and psychology of religion, ethics)*

Ninian Smart, B. Phil., Oxford University, Professor *(philosophy of religion, comparative religions)*

Ines Talamantez, Ph.D., UC San Diego, Associate Professor *(Native American religions)*

Affiliated Faculty

R. Stephen Humphreys, Ph.D. (History)

The Department of Religious Studies at UCSB is unique among California universities, state universities, and colleges. The courses it offers address the critical issues relating to the subject of religion in its many facets: historical, cultural, literary, aesthetic, sociological, experiential, and philosophical. In introductory and advanced courses, its faculty—respected in their fields nationally and internationally—regularly teach about the religions of the world, and about the complex relationships between religion and politics, society, war, and everyday life. It is the only such department in the University of California system to offer B.A., M.A., and Ph.D. degrees.

All students who take a religious studies course learn both to appreciate the importance of religion to human thought, action, and creativity and to judge its character and historical impact in cultural context. Moreover, they discover how the critical study of religion leads to increased understanding of the relationships among the various fields of knowledge that constitute the humanities and social sciences. A departmental major gains sound general knowledge about religion east and west, ancient and modern. Careful selection of upper-division electives allows the undergraduate major to pursue a concentration in the field of western religions, Asian religions, or religion and culture. Students also become familiar with the ideas and methods employed in the critical study of religious phenomena. Enterprising students can qualify for a double major in religious studies and some other major field such as English, history, anthropology, political science, philosophy, art, or economics.

The bachelor of arts degree in religious studies is a solid liberal arts degree, providing graduates an excellent basis from which to pursue careers requiring imagination, problem-solving and communication skills, and awareness of human diversity. International studies and graduate work in the humanities and certain areas of the social sciences are other strong possibilities. After completing specific prerequisites, students with a bachelor's degree in religious studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Religious studies majors are encouraged to meet with the department's undergraduate adviser periodically for assistance in planning their curriculum. Also, the department chair and other faculty are available to consult about programs and academic plans. The department provides an information sheet for undergraduate majors, an up-to-date major requirement list, and a description of courses to be offered each quarter.

Undergraduate Program

Bachelor of Arts—Religious Studies

Preparation for the major. Required: any three lower-division courses in religious studies except 10A-G, 11A-B-C, 17A-B-C, 18A-B, 19A-B-C.

Upper-division major. Thirty-six units of upper-division courses are required, of which a maximum of 12 from courses in other departments may be selected in consultation with the adviser.

The upper-division major in religious studies must include the following specific requirements:

A. Western Religious Studies. Eight units from 100, 101, 109, 112A-B, 114B-C-D-E, 115A-B-C-D, 116A-B,118, 122, 125, 126, 129, 130, 131A-B-C-D-E-F-G-H-I-J, 133, 136, 137A-B, 138A-B-C, 139, 140A-B-C-E-F, 142A-B-C, 145, 147A-I, 151A-B, 152, 153, 154A, 155, 171, 174, 176, 180, 182, 183, 187, 188, 189, 195.

B. Asian Religious Studies. Eight units from 129, 146, 157, 158, 159A-B-C-D-E-F-G-H-I-J-K-L (no more than 8 units of 159 will count toward the major), 160, 161A-B, 162A-B, 164A-B, 165, 166A-B-C-D-E-F-G-H, 167A-B-C-D, 168, 169, 170, 173, 175, 195.

C. Religion and Culture. Eight units from 102, 103, 105, 106, 107, 108, 111, 110A-B-D, 112A-B, 114B-C-D-E, 115A-B-C-D, 117A-B, 122, 125, 129, 130, 131A-B-C-D-E-F-G-H-I-J, 133, 134A-B, 135, 137A-B, 140A-B-C-D-F, 141A-B-C, 142A-B-C, 143, 144, 145, 146, 151A-B, 152, 153, 154A-B, 155, 156A, 160, 166A-B-C-E-F-H, 167A-B-C-D, 168, 169, 172, 173, 175, 176, 177, 178, 179, 180, 182, 183, 184, 189, 195.

D. Problems in the Study of Religion. Religious Studies 104.

E. Eight units of upper-division religious studies electives.

Note: The same course units may not be used to fulfill the requirements in more than one of the areas listed above.

Foreign Languages

Many of the greatest ideas and writings concerning the study of religions, or of a religious character, were formulated in languages other than English. Majors are strongly urged to acquire proficiency in one or more European (e.g., French, German, Spanish, Greek, Latin) or non-European (e.g., Chinese, Japanese, Hindi, Arabic, Hebrew, Sanskrit) languages. Election to the Phi Beta Kappa honor society requires proficiency in one foreign language, usually demonstrated by completion of the fifth quarter or its equivalent. Students should consult with their departmental adviser to select the most appropriate language. Also, they should seriously consider participating in the university's Education Abroad Program, particularly in Asia, the Middle East, Africa, and Latin America.

Undergraduate Honors

The department offers honors sections in lower-division survey courses such as Religious Studies 1, 3, 5, 6, 7, 8, 12, and 15. Upper-division College Honors Program students may design their own contract courses and independent studies courses with religious studies faculty. Candidates for the religious studies honors program should formally petition the department chair in the spring or early fall; each petition must be supported by a faculty letter of reference. Candidates must be in residence at UCSB for at least one year (three quarters) as religious studies majors, have a cumulative grade-point average of 3.5, and a grade-point average of 3.75 in religious studies. Once admitted, they work closely with department faculty to prepare an honors thesis. The honors seminar, Religious Studies 195, is designed to facilitate research and writing of the thesis. Honors program graduates are identified separately each year at the head of the graduation list for religious studies, and receive the award of Distinction in the Major upon graduation.

Awards

The Edward C. Truman award is presented annually to a freshman, sophomore, or junior major deemed outstanding by the department and the UCSB Affiliates.

Graduate Program

The Department of Religious Studies offers courses in the religious dimensions of eastern, western, and third-world cultures. The implications of modern political movements such as nationalism or Marxism for religious studies are also covered.

All programs emphasize a cross-cultural comparative study of religions and use interdisciplinary approaches as appropriate to religious studies, incorporating such disciplines as philology, history, anthropology, sociology, comparative literature, psychology, and philosophy. Undergraduate and master's programs provide a general orientation toward religious studies, while the doctoral program offers specialized training leading to professions in teaching and research.

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Admission

Applicants are admitted on a competitive basis. Undergraduate grade-point average counts heavily, and scores from the aptitude test of the Graduate Record Examination are required. Applications for the M.A./Ph.D. program are accepted for fall quarter only; the deadline is February 1. The same schedule is normally required for M.A. Plan 2 applicants.

Master of Arts—Religious Studies, Plan 1 (M.A./Ph.D.)

Students admitted to the M.A./Ph.D. program will undertake the M.A. Plan 1. Students are required (1) to complete Religious Studies 200A-B-C, Proseminar in History and Theory of Religion; (2) to pass a language exam in French or German; (3) to complete 36 units, including no fewer than 24 graduate units; and (4) to write a research thesis under the guidance of the religious studies faculty.

The department awards financial aid only to those students in the M.A./Ph.D. program (and not necessarily to all of them, depending upon departmental resources). Students receiving financial aid from the department must meet their degree requirements in a timely fashion. Those who do not fulfill the requirements within a two-year period will be granted a terminal M.A. provided they have completed the 36-unit requirement.

Master of Arts—Religious Studies, Plan 2

Students entering the M.A.-only program are required (1) to complete at least 36 units, of which at least 20 must be graduate-level units; (2) to complete Religious Studies 201, Core Issues in the Study of Religion; and (3) to pass a comprehensive examination following Religious Studies 201. The Department of Religious Studies considers the M.A.-only program to be most appropriate for individuals seeking professional or career development in fields not exclusively related to university teaching and research.

Doctor of Philosophy—Religious Studies

The Ph.D. program in the Department of Religious Studies is designated as Cross-Cultural and Interdisciplinary Studies in Religion. The cross-cultural area of the program is concerned with the comparative study of religious traditions in eastern and western cultures, and includes Native American religious traditions. Advanced work in this area emphasizes the study of religious texts and other source materials requiring philological competence; the study of methodology and hermeneutics; and comparative phenomenological, philosophical, and theological investigation.

The interdisciplinary studies area of the program concentrates on the relation of religion to the humanistic traditions of thought and expression in both classical and contemporary forms. Students are expected to do advanced work in one of the traditional disciplines—literature, history, history and theory of art, philosophy, sociology—in addition to preparing themselves in the history of western thought and in a general approach to the theory and history of religion.

Applicants holding the M.A. degree in religious studies (or its equivalent) may apply directly to the Ph.D. program. Others should apply to the M.A./Ph.D. program, which entails the M.A. Plan 1.

All Ph.D. students must take Religious Studies 200A, 200B, and 200C, which require the preparation of a methodological paper each quarter. Selection of other courses is to be worked out in consultation with the student's adviser. Students admitted directly into the doctoral program without the M.A. or its equivalent are required to take 36 units of advanced work. Doctoral students must complete a second examination in a modern language in which a substantive religious studies bibliography exists, as well as field examinations in their areas of major emphasis. The student, having agreed to a doctoral committee, will then prepare a dissertation prospectus. The prospectus will constitute the major occasion for the oral qualifying examination, upon successful completion of which the student will be advanced to candidacy. Advancement to candidacy (C.Phil.), which occurs after completion of the second modern language exam, the field exams, and the oral qualifying exam, should be accomplished by the end of the tenth quarter in residence in the case of students who began graduate study at UCSB, or by the end of the seventh quarter of residence in the case of students who enrolled at UCSB having already completed an M.A. in religious studies. Competence in certain classical or ancient languages may also be required, depending on the student's program of study.

Candidates must then write a dissertation under the supervision of the doctoral committee, demonstrating an ability to do significant research and scholarly analysis and to present findings and conclusions with precision and clarity. The dissertation must normally be completed within two to three years after passing the qualifying examination.

Religious Studies Courses

LOWER DIVISION

1. Introduction to the Study of Religion
(4) STAFF

A consideration of major themes, issues, types of figures and phenomena, and traditions—all selected from the history of religion so as to illustrate the great variety of religious phenomena and to suggest some of the ways such things may be responsibly studied.

3. Introduction to Asian Religious Traditions
(4) STAFF

Same course as East Asian Cultural Studies 3.

An introduction to the basic texts, institutions, and practices of the religious traditions of South Asia and East Asia.

5. Introduction to Judaism, Christianity, and Islam
(4) STAFF

An introduction to the basic texts, institutions, and practices of western religious traditions: Judaism, Christianity, and Islam.

7. Introduction to American Religion
(4) ALBANESE, ROOF, HAMMOND

Religion and religions in America. Survey of the variety of religions or religious traditions in America, including Native American, Asian, African-American, Judaism, Roman Catholicism, and the varieties of Protestantism. Focus also on such common features as "civil religion."

8. Introduction to Religion and Ethics
(4) ROOF

An introductory survey of the basic issues and themes in the relationship between religion and ethics.

9. Ethnicity and Religion: Latino, East Asian, African and Native American Religions and Philosophies
(4) SMART

This course will be on the religions and philosophies of four major ethnic groups in the United States and relate them to East Asian, African, Latin and other cultures.

10A. Arabic I
(5) CAMPO

Introductory Modern Standard Arabic: pronunciation, script, basic grammar, and vocabulary. Includes lessons in reading, conversation, and oral comprehension. Weekly sections involve cultural materials such as elementary calligraphy, Middle Eastern cooking, Arabic television shows, films, singing, and folk dance.

10B. Arabic II
(5) CAMPO

Prerequisite: Religious Studies 10A or consent of instructor.

Continuation of Arabic I.

10C. Arabic III
(5) CAMPO

Prerequisites: Religious Studies 10A-B or consent of instructor.

Continuation of Arabic II.

10D. Arabic IV
(5) CAMPO

Prerequisites: Religious Studies 10A-B-C, or consent of instructor.

Intermediate Arabic: complex grammar and vocabulary, readings in classical and modern Arabic literature, including short stories, newspaper articles, and poetry. Extensive use of audio-visual materials including news broadcasts, television shows, and films. Weekly conversation section.

10E. Arabic V
(5) CAMPO

Prerequisite: Religious Studies 10D or consent of instructor.

Continuation of Arabic IV.

10F. Arabic VI
(5) CAMPO

Prerequisite: Religious Studies 10E or consent of instructor.

Continuation of Arabic V.

11A. Hindi I
(4) STAFF

The beginning course in Hindi. Survey of grammar. Graded exercises and readings drawn from Hindi literature, leading to mastery of grammatical structures and essential vocabulary and achievement of basic reading and writing competence.

11B. Hindi II
(4) STAFF

Continuation of Hindi I.

11C. Hindi III
(4) STAFF

Continuation of Hindi II.

11D. Hindi IV
(4) STAFF

Prerequisite: completion of Religious Studies 11C or equivalent.

Intermediate Hindi. Selected readings in Hindi fiction and nonfiction, with exercises in grammar, composition, and conversation.

11E. Hindi V
(4) STAFF

Prerequisite: completion of Religious Studies 11D or equivalent.

Intermediate Hindi (continuation of Religious Studies 11D).

11F. Hindi VI
(4) STAFF

Prerequisite: completion of Religious Studies 11E or equivalent.

Continuation of Religious Studies 11E.

12. Religious Approaches to Death
(4) COMSTOCK

An examination of traditional and modern works dealing with the art of dying and death. Current discussions amongst sociologists and psychologists as well as significant literary works are related to materials on death in religious traditions like Christianity and Buddhism.

14. Introduction to Native American Religious Studies
(4) TALAMANTEZ

This course is designed as an introduction to the contribution that Native American religions make to the general study of religion. Metaphysical and philosophical aspects of North American native culture. Major concepts of belief systems, religion, and medicine. Theories of balance, harmony, knowledge, power, ritual, and ceremony.

15. Religion and Psychology
(4) ROOF

A survey of theories and approaches to the study of religion from the perspective of psychology, with an emphasis on psychoanalytical, analytical, and humanistic psychology as well as on other theorists and trends emerging out of or relating to these traditions in psychology.

17A. Introduction Biblical Hebrew I
(4) GARR

This course will introduce the student to the orthography, phonology, grammar, and lexicon of Tiberian Biblical Hebrew as found in most printed Bibles.

There will be extensive grammatical exercise in recitation and written forms in which the student learns the bulk of Hebrew grammar. The course will conclude with selected Pentateuchal readings when the student applies grammatical knowledge to actual texts.

17B. Introduction to Biblical Hebrew II
(4) GARR

Prerequisite: Religious Studies 17A or consent of instructor.

Continuation of Religious Studies 17A.

17C. Introduction to Biblical Hebrew III
(4) GARR

Prerequisite: Religious Studies 17B or consent of instructor.

Continuation of Religious Studies 17B.

18A. Introduction to Targumic Aramaic I
(4-4) GARR

This course will present the grammar and basic vocabulary of Targumic Aramaic, concentrating on Targum Onkelos — the "official" Jewish Aramaic translation of the Old Testament. During the course, students will memorize the nominal and verbal paradigms of the dialect, and they will read selected passages from the Joseph story. The course will lay the groundwork for future study in the different Targumic and Jewish Aramaic traditions.

18B. Introduction to Targumic Aramaic II
(4) GARR

Prerequisite: Religious Studies 18A or consent of instructor.

Continuation of Religious Studies 18A.

19A-B-C. Syriac
(4-4-4) GARR

Introduction to the grammar and literature of the Syriac language. Emphasis will be placed upon the acquisition of Syriac language skills.

20. Nature: East Asian Views
(4) GRAPARD

An introduction to the ways in which Chinese and Japanese cultures have conceptualized nature and humankind's place in it.

21. Zen
(4) GRAPARD

An introduction to the history and texts of the major lineages of Ch'an Buddhism in China, and Zen Buddhism in Japan.

22. Religious Narratives and Paintings of Japan
(4) GRAPARD

Same course as Japanese 22.

A survey and cultural analysis of the painted scrolls and texts related to historical records of religious institutions in medieval and premodern Japan.

25. Dimensions of Christianity
(4) SMART

In some ways Christianity is the least understood of the world's religions, perhaps because those who study it are either too close to it, too alienated, or too specialized. This course places Christianity in its plural and multidimensional context and uses the methods of the history of religions to examine it.

35. Religion and Politics in Latin America
(4) STAFF

This course examines the political, social, economic, and religious factors contributing to the development of liberation theology in Latin America. Overview of twentieth century Latin American history including: colonial legacy; economic patterns; role of the military as a political force.

40. Religion and Society
(4) HAMMOND, ROOF

An introduction to the analysis of how social forces shape religion and religious forces shape the behavior of persons and institutions. The contemporary scene is emphasized, although attention is also given to cross-cultural and historical matters.

42. Religion and Sexuality
(4) STAFF

Examination and analysis of how various religious communities in different cultural settings define and prescribe sexuality and related moral issues.

61A. Religion in Black America (Part I)
(4) TURNER

Prerequisite: same course as Black Studies 60A.

A historical examination, beginning with West African heritage, of Afro-American religious leaders and organizations in the United States during slavery and until the end of the nineteenth century.

61B. Religion in Black America (Part II)
(4) TURNER

Prerequisite: same course as Black Studies 60B.

A historical survey of major Black religious figures, organizations, movements, philosophies, and issues. Emphasis on contemporary religious phenomena in the Black religious community of the United States during the twentieth century.

80A. Religion and Western Civilization I: Ancient
(4) COMSTOCK

The religions of classical antiquity; myths, rituals, and cults of Greece and Rome; religious dimensions of Greek and Roman philosophy; beginnings and development of Christianity to time of Theodosius the Great (379-395 C.E.)

80B. Religion and Western Civilization II: Medieval
(4) COMSTOCK

The decline of classical antiquity; the emergence of medieval Christendom; religion and culture of the Middle Ages (eleventh-thirteenth centuries); subsequent development of the Renaissance and Reformation.

80C. Religion and Western Civilization III: Modern
(4) COMSTOCK

Religious responses to the emergence of modern science in the seventeenth century; religion in eighteenth century Europe; religion in America; the challenges of the twentieth century.

UPPER DIVISION

Please note that the letter suffixes attached to the numbers of many of the upper-division courses do not necessarily indicate a prerequisite sequence.

100. From Augustine to Luther
(4) CAPPS

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of the major themes, figures, patterns of thought, and artistic styles of medieval and early reformation Christianity.

101. A Survey of Western Religious Thought
(4) COMSTOCK

Prerequisite: any lower-division course in religious studies or consent of instructor. Recommended by the department for all M.A. and Ph.D. candidates in religious studies.

A survey of leading problems in Greek philosophy, medieval theology, and modern philosophy of religion that have special bearing on the questions of the nature and concerns of religion.

102. Symbolizations of the Feminine in Cross-Cultural Perspective
(4) HOLDREGE

Prerequisite: any lower-division religious studies course or consent of instructor.

A comparative analysis of symbolizations of the feminine in Western and Asian religious traditions, with attention to contrasting images of the feminine as an inherently passive principle on the one hand and as an activating principle of divine power on the other.

103. The Ritual Dimensions of Religious Life
(4) HOLDREGE, GRAPARD

Prerequisite: any lower-division course in religious studies or consent of instructor.

An exploration of the nature, structure, and function of ritual in religious life, including analysis of the sacred time and space of ritual and of categories of ritual such as sacrifice, communal worship, festivals, rites of passage, and prayer and meditation.

104. Problems in the Study of Religion
(4) STAFF

Prerequisite: for majors only. Recommended for junior year.

Problems involved in the meaning of "religion," the goals of religious studies, religious pluralism, and the role of religion in the modern world.

107. Contemporary Christian Thought
(4) STAFF

Prerequisite: any lower-division religious studies course.

From Barth and Tillich to liberation theology: description and analysis of the principal questions and issues within contemporary Christian thought.

108. Comparative Ethics
(4) SMART

Prerequisite: any lower-division course in religious studies or consent of instructor.

Variations in behavior occur in differing cultures partly for religious reasons. The course explores the reasons, and deals with the spiritual dimension of moral taboos. It also deals somewhat with humanistic and other ideological alternatives to religion.

110A. Religion and Literature
(4) COMSTOCK

Prerequisite: any lower-division course in religious studies or consent of instructor.

An examination of the interaction between religion and literature through the study of literary works. Figures like John Milton, William Blake, and T. S. Eliot are among those to be considered.

110B. Literature and Visionary Experience
(4) COMSTOCK

Prerequisite: any lower-division course in religious studies or consent of instructor.

A study of religious experience-visions, mystical insights, etc., through works of literature in which such experiences play a major role.

110D. Ritual Art and Verbal Art of the Pacific Northwest
(4) TALAMANTEZ

Prerequisite: Religious Studies 14.

Religious ethos of selected peoples of the Pacific Northwest, as is expressed in masking, body paint, art, and architecture. Study of mythology, ritual, symbolism, and contemporary developments.

111. Problems of Faith and Doubt in the Modern World
(4) STAFF

Prerequisite: any lower-division religious studies course

The problems of religious faith and doubt as they pertain to both society and the individual. The focus is mainly on the nineteenth and twentieth centuries.

113. Religion and Film
(4) COMSTOCK, ROOF

Prerequisite: any lower-division religious studies course or consent of instructor.

An examination of religious themes and forms as they appear in significant works of modern film. The nature of man, the problem of suffering, the quest for meaning are among the topics considered.

114B. Religious Traditions of the Southwest
(4) TALAMANTEZ

Prerequisite: any lower-division course in religious studies or consent of instructor.

Survey of the cultures of the southwestern United States to discern the place of religion in the life of Athabascan, Pueblo, Uto-Aztecan, and native peoples of California. Consideration of the relationships between social structure, environment, and history as they affect religious behavior. Brief overview of the Native American church, folk Catholicism, curanderismo, and espiritualismo.

114C. Myths, Symbols, and Transitions in Native American Religions
(4) TALAMANTEZ

Prerequisite: any lower-division course in religious studies or consent of instructor.

An exploration of the nature, structure, and meaning of ritual act and ritual language in the religious life of native cultures of the Southwest. Intensive study of selected ritual oratory with particular attention to myth and symbol. The relevance of linguistic models for interpreting ritual. Approaches to symbolism including the interrelations between different media (oral, aural, tactile, plastic), and to features of formalism, redundancy, and condensation in ritual. Examination of a select number of monographs.

114D. Religion and Healing in Native America

(4) TALAMANTEZ

Prerequisite: any lower-division course in religious studies or consent of instructor.

An interdisciplinary and comparative study of representative Native American cultures and their religio-medico systems. Emphasis on understanding the experimentation, evaluation, and sacralization of the biosphere in culture to meet human physical and spiritual needs. Examination of the special place of language in well-being. Attention will be given to changes which are a result of contact with European culture.

115A. Literature and Religion of the Hebrew Bible/Old Testament

(4) HECHT, GARR

Prerequisite: any lower-division course in religious studies or consent of instructor.

Introduction to the varieties of literature, traditions, and institutions of ancient Israel through the prophetic period.

115B. The Prophets

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

The origins, development, and enduring significance of the prophetic movement in ancient Israel.

115C. The Hebrew Bible and Its Interpretation in the Jewish Tradition

(4) HOLDREGE

Prerequisite: any lower-division course in religious studies or consent of instructor.

A study of the history of interpretations of the Hebrew Bible in the Jewish tradition, including an analysis of the principal modes and trends of biblical exegesis—halakhic and aggadic Midrash, medieval commentaries, philosophical exegesis, kabbalistic interpretations, and modern commentaries. (Knowledge of Hebrew not required.)

115D. The Social and Cultural History of the Bible

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

Examination of the role of the Hebrew Bible and the New Testament in the formation of western civilization. Central topics are the interplay between the Bible and art, architecture, iconography; liturgy, poetry, literature; cosmology, scientific thought, economics, politics.

116A. Origins of Christianity

(4) PEARSON

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of the varieties of early Christian traditions and literature of the first century, with special (but not exclusive) attention to the New Testament.

116B. Second-Century Christianity

(4) PEARSON

Prerequisite: Religious Studies 116A or equivalent. Any lower-division course in religious studies or consent of instructor.

Study of the various religious trends in developing Christianity as represented in the writings of the early Fathers, the later books of the New Testament, the New Testament Apocrypha, and "heretical" movements.

117A. The Language and Religion of the Mishnah and Talmud

(4) HECHT, GARR

Prerequisites: Religious Studies 115A-B, or C; or consent of instructor.

Based on textual sources, this course will focus upon the religion of Jews in the Parthian and Sassanian periods, as well as on the cultural and social problems which Jews faced while living in a Persian culture.

117B. The Language and Religion of the Mishnah and Talmud

(4) HECHT, GARR

Prerequisite: Religious Studies 117A or consent of instructor.

Continuation of 117A. Based on textual sources, this course will focus upon the religion of Jews in Parthian and Sassanian periods, as well as on the cultural and social problems which Jews faced while living in a Persian culture.

118. Religious Contours of the Western Hemisphere

(4) TALAMANTEZ

Surveys history and forms of religion in Western Hemisphere. Paleolithic and Pre-Columbian traditions and distribution. Conquest and colonization: Latin America and Caribbean. North and Latin American evangelism and political organization. Mestizaje, syncretism in Native American, Euro-American, and African populations.

119. Religion in Fiction

(4) SMART

Prerequisite: any lower-division religious studies course or consent of instructor.

The examination of religious phenomena, such as the charismatic figure, in fiction by such writers as Dostoievski, Fogazzaro, Soyinka, Llosa, and Narayan.

120. Shugendo: Japanese Mountain Religion

(4) GRAPARD

Same course as Japanese 119.

Historical study of texts and practices of Japanese mountain ascetics (*Yamabushi*), and of their role in the formation of Japanese culture, from 700 to present.

122. Religious Systems of Africa

(4) TURNER

Prerequisite: a lower-division Religious Studies course or consent of instructor. Same course as Black Studies 120.

A survey of the various religious traditions of the African Continent.

125. Special Topics

(4) STAFF

Prerequisite: upper-division standing or one prior course in religious studies. No more than 8 units of major credit will be given, but course may be repeated up to a 12-unit maximum.

Lectures in special areas of interest in religious studies. Specific course titles to be announced by the department each quarter.

126. Roman Catholicism Today

(4) STAFF

Prerequisite: any lower-division course in religious studies, or consent of instructor.

A survey of the history of Roman Catholic Christianity, leading to Vatican II and subsequent changes in the church.

128. Mystery Religions of the Graeco-Roman World

(4) PEARSON

Historical study of the Greek/Oriental mysteries of the Hellenistic-Roman world (Demeter-Kore, Dionysos, Magna Mater, Isis-Osiris, Mithra, etc.). Attention is given to the impact of the mysteries on magic and alchemy, philosophy, and Judaism and Christianity.

129. Religions of the Ancient Near East

(4) CAMPO, GARR

Prerequisite: any lower-division religious studies course, or consent of instructor.

An examination of the ancient religions of Mesopotamia as seen through their literature and archaeological remains. The central beliefs, rituals, and symbols of the Sumerians, Babylonians, Assyrians, and others, will be interpreted comparatively, providing fuller knowledge about the cultural environment from which Judaism, Christianity, and Islam later arose.

130. Judaism

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

Elements of traditional Judaism in biblical and rabbinic times.

131A. Palestinian Judaism from Ezra to Akiba

(4) HECHT

Prerequisite: Religious Studies 115A or equivalent. Any lower-division course in religious studies or consent of instructor.

Study of the various religious trends in Palestine from the time of Ezra to the second revolt, with special attention to the rise and development of the apocalyptic.

131B. Judaism in the Graeco-Roman World

(4) HECHT

Prerequisite: Religious Studies 115A or equivalent. Any lower-division course in religious studies or consent of instructor.

Study of the cultural and religious interactions of Judaism with Hellenism among the Greek-speaking Jews of the Diaspora. Special attention will be given to the writings of Philo of Alexandria.

131C. Judaism in the Medieval World

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

Course covers period from 650 to 1500 CE and topics: Karaite movements; biblical and talmaudic commentaries; growth of mystical movements; disputations between Christians and Jews.

131D. Judaism in Modern Times

(4) HECHT

Prerequisite: background in study of Judaism or consent of instructor. Any lower-division course in religious studies or consent of instructor.

Challenge of the Enlightenment and emancipation movements to traditional Jewish life in Western and Eastern Europe. Religious and secular responses to these challenges (orthodox, conservative, reform, Zionism, socialism) in Europe and the United States.

131E. Contemporary Trends in Judaism

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

An examination of the variety of trends in Judaism from the First World War to the present. Major areas of study include the following: the philosophies of Franz Rosenzweig, Martin Buber, and Abraham Heschel; the growth of the conservative and reform movements in America; the Holocaust; the postwar disorientation and responses to the Holocaust.

131F. The History of Anti-Semitism

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

A systematic examination of the history of anti-Semitism, beginning with the emergence of anti-Judaism in the world of late antiquity, its transformation into theological anti-Semitism in the Middle Ages, and the emergence of racial anti-Semitism in the modern world. The central focus will be anti-Semitism as a religio-historical category.

131G. Perspectives in the History of Zionism

(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

A historical examination of the diverse theoretical systems which, before 1948, reached the conclusion that Jews should create a Jewish state. Emphasis will be given to the social, political, and religious forces which animated these systems as well as the intellectual contributions of major Zionist thinkers, especially Pinsker, Herzl, Ahad Ha-Am, Gordon, Jabotinsky, Katzenelson, Berdichevski, and Weizmann.

131H. Politics and Religion in the City: The Case of Jerusalem

(4) HECHT

Prerequisite: upper-division standing, or a prior course in sociology or religious studies. Any lower-division course in religious studies or consent of instructor. This course is the same as Sociology 131H.

This course examines relationships between religion and politics in Jerusalem. As a sacred center for Judaism, Christianity, and Islam, and national center for Israelis and Palestinians, Jerusalem provides the unique opportunity to examine co-existing groups holding opposite world views.

131I. The Jews and Western Civilization
(4) HECHT

Prerequisite: any lower-division course in religious studies or consent of instructor.

The role of the Jews in the history of western civilization from the world of late antiquity to the present. Topics include: philosophical, literary, legal, and economic traditions; the role of the Jews in western enlightenment and modernity.

131J. Introduction to Rabbinic Literature
(4) HOLDREGE

Prerequisite: any lower-division course in religious studies or consent of instructor.

An introduction to the basic texts of rabbinic literature through an analysis of representative passages from the Mishnah, Talmud, and Midrash. Particular attention will be given to the various types of Midrash and the principles and methods of Midrashic interpretation. (Knowledge of Hebrew not required.)

133. Introduction to Jewish Mysticism
(4) HOLDREGE

Prerequisite: any lower-division course in religious studies or consent of instructor.

An introduction to the schools and texts of Jewish mysticism, with particular attention to the Zohar, Lurianic Kabbalah, and Hasidism. Examination of conceptions of God and the sefirot, Torah, creation, and redemption, along with consideration of the role of meditative techniques.

134. Religion and Violence
(4) HECHT

Prerequisite: any lower-division religious studies course.

This course examines the capacity of religion to both mobilize and legitimate human destructiveness. A number of theoretical perspectives will be explored alongside of historical case studies drawn from India, Norhern Ireland, Egypt, Lebanon, Israel-Palestine, and Sri Lanka.

135. Ancient Nordic Religion
(4) PEARSON

Prerequisite: any lower-division course in religious studies or consent of instructor.

The gods and heroes, myths and rituals, of the ancient Norsemen, from prehistoric times to the Viking age. While emphasis is placed on the primary literary sources, especially the Icelandic Eddas, some attention is also given to archaeological evidence.

137A. Gnosticism
(4) PEARSON

Prerequisite: any lower-division course in religious studies.

Study of the Gnostic religion of late antiquity. Definition and parameters of Gnosticism, primary and secondary sources. Special attention will be given to the Coptic texts from Nag Hammadi, Egypt.

137B. Gnosticism: Mandaeism and Manichaeism
(4) STAFF

Prerequisite: any lower-division course in religious studies or consent of instructor.

Analysis of two religions in the region of Iran and Iraq, one (Mandaean) the last remnant of Gnosticism, the other dating from the third century. Special attention to relation between these two and Judaism, Christianity, and Zoroastrianism.

138A. Religious Literature in Coptic
(4) PEARSON

Prerequisite: at least one year of Greek. Any lower-division course in religious studies or consent of instructor.

An introduction to Sahidic-Coptic grammar, with special reference to the Coptic Gospel of Thomas.

138B. Religious Literature in Coptic
(4) PEARSON

Prerequisite: Religious Studies 138A. Any lower-division course in religious studies or consent of instructor.

Readings from the Gospel of Thomas and the Sahidic New Testament.

138C. Religious Literature in Coptic
(4) PEARSON

Prerequisites: Religious Studies 138A-B or equivalent.

Readings from selected Subakhmimic Coptic texts.

139. The New Testament in Greek
(4) PEARSON

Prerequisite: Greek 50 or consent of instructor. Any lower-division course in religious studies or consent of instructor.

Reading in the Greek New Testament, with comparative study of related materials from Greek literature of the Hellenistic-Roman period.

140A. Islamic Traditions
(4) CAMPO

Prerequisite: any lower-division course in Religious Studies or consent of instructor.

Introduction to the doctrines, practices, and historical significance of the Sunni, Shi'ite, and Sufi forms of Islam. The course gives special attention to the Quran and the figure of Muhammad.

140D. Islam and Culture
(4) CAMPO

Prerequisite: any lower-division course in religious studies or consent of instructor.

Islam is often seen in terms of its formal components, or its controversial political impact in the modern world. This course presents Islam as it is incorporated into the daily lives of its adherents, ranging from Arabia to Europe, from Asia to America. It also includes a survey of Islamic contributions to world art and literature.

140E. Islam in America
(4) CAMPO, TURNER

Prerequisite: any lower-division course in Religious Studies or consent of instructor. Same course as Black Studies 140E.

Examines Islam in American setting, from introduction by African slaves and immigrants from Islamic countries, to transformation into the Black Muslim movement, to rise as one of the leading non-Christian religions in the United States during the 1970s and 80s.

140F. Islam and Modernity
(4) CAMPO

Prerequisite: any lower-division course in religious studies or consent of instructor.

This course focuses on Muslim responses to change in the modern period. It includes a review of modern Islamic political thought, an examination of Muslim activist groups and revolutionary movements, and a discussion of calls for religious reform.

141A. Sociology of Religion: The Classical Statements
(4) HAMMOND

Prerequisite: any lower-division course in religious studies or consent of instructor.

Religion as it is treated by major social theorists, including Marx, Weber, Durkheim, Freud, Simmel, Malinowski.

141B. Sociology of Religion: Religious Organizations in Contemporary Society
(4) HAMMOND

Prerequisite: any lower-division course in religious studies or consent of instructor.

Religion as it appears in formal institutions, including the study of religious beliefs, religious professionals, and the dynamics of religious organizations. Emphasis is on contemporary U.S.

141C. Sociology of Religion: Church and State Relations
(4) HAMMOND

Prerequisites: upper-division standing; any lower-division course in religious studies.

Religion as it exists in the American civic realm, including the political aspects of churches, the religious aspects of politics, and the role of the courts in mediating the relationship of church and state.

142A. Religious Literature in Hebrew
(4) HECHT, GARR

Prerequisite: one year of Hebrew or any lower-division course in religious studies or consent of instructor.

Introduction to the narrative literature of the Hebrew Bible with special reference to Genesis 1-11. Special attention will be given to the principles of form criticism and the interpretative problems that surround this text.

142B. Religious Literature in Hebrew
(4) HECHT, GARR

Prerequisite: one year of Hebrew or any lower-division course in religious studies or consent of instructor.

Introduction to poetry of the Hebrew Bible with special reference to cultic songs. Texts will be selected from Psalms, Song of Songs, and Koheleth in order to examine the varieties of poetic style.

142C. Religious Literature in Hebrew
(4) HECHT, GARR

Prerequisite: any lower-division course in religious studies or consent of instructor.

Introduction to Palestinian midrashic literature with special emphasis upon the development of reading skills. Texts to be selected from Bereshit Rabbah, Wayyikra Rabbah, and Pesikta de-Rav Kahana.

143. Seminar in Religion and Society: Research Methods
(4) ROOF

Prerequisite: a lower-division course in religious studies or consent of instructor.

Applied research experience, with attention to practical aspects of research such as interviewing, field work, analysis, and write-up.

144. Scripture in Cross-Cultural Perspective
(4) HOLDREGE

Prerequisite: any lower-division course in religious studies or consent of instructor.

A study of scripture as a general religious category through the examination of representative texts from the major religious traditions. Particular attention will be given to the ways in which various religious communities have delimited and conceptualized these texts as "scripture."

145. Patterns in Comparative Religion
(4) STAFF

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of major religious issues as addressed by more than one religious tradition. The problem of comparative religion as an academic discipline.

146. Problems in Comparative Mysticism
(4) LARSON

Prerequisite: any lower-division course in religious studies or consent of instructor.

Historical and descriptive analysis of selected mystical traditions in South and East Asia, the Middle East, and Europe; and the study of selected key figures, e.g., Chuang Tzu, Shankara, Plotinus, St. John of the Cross, etc.

147A. Religion and the American Experience: Revivalism and Evangelicalism
(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of revivalism and evangelicalism in past and present American history. Traces origins and changes in revivalism and evangelicalism. Emphasizes relationship to general culture of the United States.

147B. Religion and the American Experience: Fundamentalism
(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of origins, growth, and contemporary expression of Protestant fundamentalism within the culture of the United States. Focuses on this distinctive form of religion as shaping and being shaped by American culture.

147C. Religion and the American Experience: Millennialism
(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of millennialism in various forms in American history past and present. Focuses on role of millennialism as both expression of American culture and shaping force within it.

147D. Religion and the American Experience: Native Americans, African-Americans, Euro-Americans

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of historical dimension of Native American and African-American religion in contact situation. Explores impact of Native Americans and African-American religious cultures on majority culture of United States.

147E. Religion and the American Experience: Transcendentalism

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of New England Transcendentalism as a religious movement in nineteenth-century America. Reading of major religious statements by leading Transcendentalists. Analysis of Transcendentalism as an expression of American culture and study of its role in shaping later culture.

147F. Religion and the American Experience: Nineteenth-Century New Religions

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of Mormonism, Christian Science, and other nineteenth-century new American religions. Emphasizes relationship of beliefs and behavior to general culture of the United States.

147G. Religion and the American Experience: Metaphysical Movements

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of major metaphysical movements (as Spiritualism, New Thought, Theosophy) in American religious history. Assesses significance of these movements as both expressions of the culture and shapers of it.

147H. Religion and the American Experience: Healing Movements

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of specific healing movements in past and present American history as religious phenomena. Focuses on religious rationales and rituals as healing events both shaped by and shaping the culture of the United States.

147I. Religion and the American Experience: Nature Religion

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of religion(s) of nature in American religious history from colonial times to the present. Highlights relation between nature religion and political and social culture of the Unites States.

147J. Religion and the American Experience: Communes and Communalism

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of communes as religious movements and communalism as religious ideology. Focuses on significance of communes and communalism as shapers of American culture and also an expression of it.

148A. Advanced Arabic

(4) REYNOLDS

Prerequisite: Arabic VI or equivalent.

Advanced study of grammar and vocabulary; readings in the major genres of classical and modern Arabic literature, including Qur'an, medieval poetry and prose modern short story and novels, etc.

148B. Advanced Arabic

(4) REYNOLDS

Prerequisite: Arabic VII or equivalent.

Continuation of Arabic VII.

148C. Advanced Arabic

(4) REYNOLDS

Prerequisite: Arabic III or equivalent.

Continuation of Arabic VIII.

149. Compartive Religion and Politics of Middle East

(4) HECHT

Prerequisite: upper-division standing or consent of instructor. Same course as Political Science 149.

This course focuses on "primordialism" in the contemporary Middle East and how kinship, ethnicity and religion impact nation-building. Four cases are selected from Egypt, Saudi Arabia, Israel-Palestine, Lebanon, Syria, and Iraq.

151A. Religion in American History to 1865

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Principal figures, groups, trends, and issues in religion in America to 1865.

151B. Religion in American History since 1865

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Principal figures, groups, trends, and issues in religion in America since 1865.

152. Religion in America Today

(4) ALBANESE

Prerequisite: any lower-division course in religious studies or consent of instructor.

Recent trends in American religion and in interrelationships between religion and American society.

153. Religion and Politics in Contemporary America

(4) CAPPS

Prerequisite: any lower-division course in religious studies or consent of instructor.

Analyses of the interplay of religion and politics in contemporary American life.

154A. The Encounter of Religions in America

(4) ALBANESE

Prerequisite: lower-division course in religious studies or consent of instructor.

Relations between Protestant, Catholic, Jewish, and other religious traditions in America, and between Native American, African-American, Asian-American, and European-American religious traditions: confrontation, conflict, alienation, adaptation, and amalgamation; analysis of what it means to be religious in America.

154B. Cults and Anticultism in America

(4) STAFF

Prerequisite: Religious Studies 151B or 152.

A critical review of the religious, historical, cultural, and legal issues raised by the presence of numerous nonconventional religions in contemporary North America. Selected religious groups, popularly labeled "cults," will be examined in depth, as will the counter-cult movement.

155. Religion and the Impact of Vietnam

(4) CAPPS

Prerequisite: any lower-division course in religious studies or consent of instructor.

Impact of the Vietnam War upon American values, religion, and senses of national purpose.

156A. Anthropology of Religion

(4) LONG

Prerequisite: any lower-division course in religious studies or consent of instructor.

Religion as a cultural phenomenon; the nature of religious experience among preliterate peoples; influence of social structure on the development of myth and ritual; comparison between various scientific methods in the study of religion.

157. Religious Arts of Asia

(4) GRAPARD

Prerequisite: any lower-division course in religious studies or consent of instructor.

This course introduces students to the study of ritual through an understanding of iconography specifically and aesthetics generally, using the religious traditions of Hinduism, Buddhism, Taoism, and Shinto. This course is, therefore, more akin to a history of ancient cultures than to art history.

158. Hindu Myth and Image

(4) HOLDREGE

Prerequisites: any lower-division course in religious studies or consent of instructor.

A study of the myth complexes and images associated with the major gods and goddesses of the Hindu pantheon. Consideration will be given to the appropriation and transformation of the mythology and iconography in the context of living devotional traditions.

159A. Religious Literature in Sanskrit

(4) LARSON

Prerequisite: any lower-division course in religious studies or consent of instructor.

An introduction to the phonology, morphology, and syntax of classical Sanskrit.

159B. Religious Literature in Sanskrit

(4) LARSON

Prerequisite: Religious Studies 159A. Any lower-division course in religious studies or consent of instructor.

Reading and analysis of classical Sanskrit religious texts: *Mahabharata* and *Hitopadesa*.

159C. Religious Literature in Sanskrit

(4) LARSON

Prerequisites: Religious Studies 159A-B or equivalent. Any lower-division course in religious studies or consent of instructor.

Reading and analysis of classical Sanskrit religious texts: Mahabharata and Hitopadesa.

159D-E-F. Religious Literature in Sanskrit

(4-4-4) LARSON

Prerequisites: Religious Studies 159A-B-C or equivalent. Courses need not be taken in sequence. Any lower-division course in religious studies or consent of instructor.

Reading and analysis of classical Sanskrit religious texts:

D: Bhagavad Gita
E: Samkhyakarika
F: Yogasutra

159G-H-I. Religious Literature in Sanskrit

(4-4-4) LARSON

Prerequisites: Religious Studies 159A-B-C or equivalent. Courses need not be taken in sequence. Any lower-division course in religious studies or consent of instructor.

Reading and analysis or classical Sanskrit religious texts:

G: Nagarjuna's Karika-s
H: Purana-s
I: Gaudapada's Karika-s

159J-K-L. Religious Literature in Sanskrit

(4-4-4) LARSON

Prerequisites: Religious Studies 159A-B-C or equivalent. Courses need not be taken in sequence. Any lower-division course in religious studies or consent of instructor.

Reading and analysis of classical Sanskrit religious texts:

J: Chandogya Upanishad.
K: Katha, Svetasvatara, and Mandukya Upanishads.
L: Bhasyas of Shankara

160. Religious Traditions of India

(4) HOLDREGE

Prerequisite: any lower-division course in religious studies or consent of instructor.

An introduction to the classical religious traditions of India, with particular attention to three major areas of Indian religion and culture: the ritual, moral, and social order; philosophical perspectives and traditions; and traditions of mythology and devotion.

161A. Yoga Traditions of India

(4) LARSON

Prerequisite: any lower-division course in religious studies or consent of instructor.

Religio-historical analysis of classical Samkhya and Yoga, Jain and Buddhist Yoga, and Tantric Yoga.

Study of the role and function of meditation in Indian religion.

161B. Buddhist Meditation Traditions
(4) POWELL, GRAPARD
Prerequisite: any lower-division course in religious studies or consent of instructor.

A consideration of major forms of Buddhist meditation, from both the South Asian and the East Asian traditions, with special attention given to determining the nature of meditation as a variety of religious experience.

162A. Indian Philosophy and Religion
(4) SMART
Prerequisite: any lower-division course in religious studies or consent of instructor.

The course examines the degree to which certain representative metaphysical systems reflect religious interests and experiences-systems such as those of Nagarjuna, Shankara, Ramanuja, and Madhva.

162B. Seminar on Shankara and Nagarjuna
(4) LARSON
Prerequisite: Religious Studies 160 or 161 or consent of instructor. Any lower-division course in religious studies or consent of instructor.

Historical, thematic, and comparative analyses of Advaita Vedanta and Madhyamika Buddhism.

163. Images of Japan: The Ideology of Representation
(4) GRAPARD
Same course as Japanese 163.

Analysis of how Japanese culture represented itself to itself: religion, art, literature, and maps.

164A. Buddhist Traditions in South Asia
(4) LARSON
Prerequisite: any lower-division course in religious studies or consent of instructor.

Origin and development of Buddhist tradition in India and South Asia.

164B. Buddhist Traditions in East Asia
(4) POWELL
Prerequisite: background in Indian Buddhism and any lower-division course in religious studies; or consent of instructor.

A consideration of the Buddhist tradition and its evolution in China, with emphasis on the changes which Buddhism underwent in its encounter with Chinese traditions and historical circumstances.

165. The Upanishadic Tradition of India
(4) STAFF
Prerequisite: any lower-division course in religious studies or consent of instructor.

Analysis and interpretation of the philosophical implications of selected Upanishads — primal myths, the doctrine of the Self, the mahavakyani, etc.

166A. Religion in Chinese Culture
(4) POWELL
Prerequisite: any lower-division course in religious studies or consent of instructor.

A survey of major periods and themes in the history of the Confucian, Taoist, and Chinese Buddhist traditions, with particular emphasis on the differences and tensions among them and on the contributions of each to the formation of the Chinese civilization.

166B. Taoist Traditions of China
(4) POWELL
Prerequisite: upper-division standing or consent of instructor. Same course as Chinese 166B.

A study of the classical sources of Taoism, followed by a consideration of the varieties of religious practice which developed from those sources.

166C. Confucian Traditions: The Classical Period
(4) POWELL
Prerequisite: any lower-division course in religious studies or consent of instructor.

A treatment of the origins of Confucianism and of its development through the Han dynasty (to A.D. 200), with special attention to the variety of humane and spiritual disciplines which came to be called "Confucian." Emphasis will be placed on the interpretation of primary texts like the Analects, the Mencius, the Hsun Tzu, etc.

166E. The Flowering of Chinese Buddhism
(4) POWELL
Prerequisite: Religious Studies 164B or consent of instructor. Any lower-division course in religious studies or consent of instructor. Same course as Chinese 166E.

A study of the distinctively Chinese forms of Buddhism which emerged in the sixth and seventh centuries A.D. Emphasis will be on the Hua-Yen, T'ien-t'ai, and Ch'an traditions, and on the features of those traditions which distinguish them most clearly from Indian Buddhism.

166F. Religious Literature in Chinese: Buddhist Texts
(4) POWELL
Prerequisite: one year of formal study of classical Chinese. Any lower-division course in religious studies or consent of instructor.

Selected readings in important Buddhist texts which were either originally written in Chinese or translated into that language. Only texts not available in Western language translation will be chosen. Attention will be given not only to the content of the texts read, but also to the grammatical, syntactical, and terminological peculiarities of Buddhist Chinese.

166G. Religious Literature in Chinese: Confucian Texts
(4) STAFF
Prerequisite: one year formal study of classical Chinese

Readings in selected texts from the classical Confucian tradition (Chou dynasty), Han dynasty Confucianism, and the Neo-Confucian traditions of the Sung and Ming dynasties.

166H. Religious Literature in Chinese: Taoist Texts
(4) POWELL
Prerequisite: one year of formal study of classical Chinese. Any lower-division course in religious studies or consent of instructor.

Readings in the Lao Tzu (Tao-te-ching) and the Chuang Tzu and their latter commentaries.

167A. Religion in Japanese Culture
(4) GRAPARD
Prerequisite: any lower-division course in religious studies or consent of instructor.

A historical analysis of the major components of the classical and medieval religious systems of Japan, through investigation of texts, rituals, and institutions.

167B. Religion in Japanese Culture
(4) GRAPARD
Prerequisites: Religious Studies 167A or equivalent. Any lower-division course in religious studies or consent of instructor.

A historical analysis of the major components of premodern Japanese ideology through investigation of texts, institutions, and rituals.

167D. Shinto
(4) GRAPARD
Prerequisite: any lower-division course in religious studies or consent of instructor.

A systematic analysis of the principle institutions, texts, and rituals of the Shinto traditions of Japan, in historic perspective.

168. Modern Buddhism in Sri Lanka and Its Roots
(4) SMART
Prerequisite: Religious Studies 3 or 161A.

Introduction in-depth to Buddhism primarily Theravada Buddhism in India and Sri Lanka; work in Sri Lanka; treatment of various dimensions (practice, temple rituals, experience in meditation, ethical teaching, symbiosis of the lay public, the monks, Buddhist art, doctrine and analysis, religious phenomena, Hindu deities, etc.).

169. Hindu Devotional Traditions
(4) HOLDREGE
Prerequisite: any lower-division course in religious studies or consent of instructor.

An introduction to the devotional schools and poet-saints of the Saiva, Vaisnava, and Sakta traditions. Particular attention will be given to the different paradigms of devotion represented, respectively, by the images of servant-master, child-parent, friend-companion, and lover-beloved.

170. Hindu Dharma: Law and Ethics in Indian Society
(4) HOLDREGE
Prerequisite: any lower-division course in religious studies or consent of instructor.

A study of the ritual, moral, and social order of Indian society, with particular attention to the dichotomy between the fulfillment of one's ritual and social duties (dharma) on the one hand and the quest for ultimate salvation (moksa) on the other.

171. Religion, Ethics, and Technology
(4) COMSTOCK
Prerequisite: any lower-division course in religious studies or consent of instructor.

New ethical norms raised by modern technology. Special attention to global problems involving social justice, poverty, world hunger, militarism and the threat of atomic war.

172. Religion and Science
(4) COMSTOCK
Prerequisite: any lower-division course in religious studies or consent of instructor.

The impact of western science on religion; the compatibility and complementarity of their discourses. The implications for religion of contemporary scientific theories concerning man and the universe in which he lives.

173. Religious Myth and Language
(4) STAFF
Prerequisite: any lower-division course in religious studies or consent of instructor.

A survey of contemporary studies about the nature and function of religious symbol and language.

174. Religious Thought and Existentialism
(4) STAFF
Prerequisite: any lower-division course in religious studies.

An examination of the nineteenth- and twentieth-century literary and philosophical movement of existentialism and its implications for philosophy of religion and theology. Typical figures like Kierkegaard, Sartre, Camus, and Buber are examined.

175. Sacred Geography in China and Japan
(4) GRAPARD, POWELL
Prerequisite: any lower-division religious studies course or consent of instructor. Same course as East Asian Cultural Studies 175.

A consideration of the cultural and conginitive dimensions of East Asian sacred geography.

176. Religious Contours of California
(4) STAFF
Prerequisite: any lower-division course in religious studies or consent of instructor.

California contains virtually all the religious variety known to humankind. It serves as a window, therefore, to the world's religions. This course uses the history of California to introduce these religions.

177. Religion and Law
(4) HECHT, POWELL
Prerequisite: any lower-division course in religious studies or consent of instructor.

A comparative study of the interrelationship of law and religion within society. Examples selected from the legal traditions of small-scale societies, the great civilizations of the past, and modern societies.

179. Religion and Humanistic Psychology
(4) STAFF
Prerequisite: any lower-division course in religious studies or consent or instructor.

Religion from the perspective of humanistic psychology. Emphasis on William James, Gordon Allport, Abraham Maslow, and on trends emerging out of this tradition in psychology.

180. Problems in the Philosophy of Religion
(4) STAFF
Prerequisite: any lower-division course in religious studies or consent of instructor.

A study of the religious dimension of philosophy and the philosophical aspect of religion. Relationship between religion and philosophy cross-culturally examined.

181A. Religious Literature in Hindi

(4) LARSON

Prerequisite: Religious Studies 11A-B-C or equivalent.

Selected readings in medieval and modern Hindi religious texts, and an introduction to the use of Hindi commentarial literature.

181B. Religious Literature in Hindi

(4) LARSON

Prerequisite: Religious Studies 11A-B-C or equivalent.

Continuation of Religious Studies 181A.

181C. Religious Literature in Hindi

(4) LARSON

Prerequisite: Religious Studies 11A-B-C or equivalent.

Continuation of Religious Studies 181B.

182. Ethics of the Life Cycle

(4) STAFF

Prerequisite: any lower-division course in religious studies or consent of instructor.

A study of contrasting models of the life cycle; rites of passage; moral problems associated with birth, growth, sex, work, leisure, aging, and death.

184. Philosophy of Religion: Thinking About Ultimate Questions

(4) SMART

Prerequisite: any lower-division course in religious studies or consent of instructor.

The course explores some key issues in the philosophy of religion in the light of contemporary debate concerning the existence of God, the meaning (or meaninglessness) of life, the criteria of truth as between worldviews, and the validity or otherwise of religious experience.

187. The Monastic Impulse

(4) CAPPS

Prerequisite: any lower-division course in religious studies or consent of instructor.

The religion of the hermitage and cloister from St. Anthony and St. Benedict. Special attention to current revivals of asceticism, east-west exchanges, and the writings of Thomas Merton.

188. Western Mysticism

(4) CAPPS

Prerequisite: any lower-division course in religious studies or consent of instructor.

Study of western mystical religion from Bernard of Clairvaux, Eckhart, St. John of the Cross, St. Teresa, to Pascal, Blake, and the modern era.

194. Group Studies for Advanced Students

(1-4) STAFF

Prerequisite: any lower-division course in religious studies or consent of instructor. Enrollment normally limited to 12 or fewer students. Students may repeat this course once for credit, subject to departmental approval, but only 4 units may apply to the major.

Topics vary according to instructor.

195. Senior Honors Program

(1-8) STAFF

Prerequisite: any lower-division course in religious studies or consent of instructor. Open only to upper-division students who have been accepted into the department's honors program.

Projects for advanced work in religious studies in conjunction with individual members of the faculty and developed by students who have qualified for the department's honors program. May be repeated once for credit.

199. Independent Studies in Religion

(1-5) STAFF

Prerequisites: any lower-division course in religious studies. Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in religious studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

GRADUATE COURSES

200A. Proseminar in History and Theory of Religion

(4) STAFF

Critical analysis and research in methodological problems related to the study of religion.

200B. Proseminar in History and Theory of Religion

(4) STAFF

Critical analysis and research in the history of western religious thought.

200C. Proseminar in the History and Theory of Religion

(4) STAFF

Prerequisites: Religious Studies 200A-B.

Analysis and application of research techniques in religious studies, including (a) identifying researchable problems; (b) designing research projects; (c) data collection, etc. Focus on religious groups in southern California (Christian, Jewish, Hindu, Muslim, etc.) and the American southwest (Native American religious communities).

201. Core Issues in the Study of Religion

(4) STAFF

Introduces graduate students to core issues in modern studies of religions and other world views.

202A-F. Religious Literature in Pali

(4) LARSON, SMART

Prerequisites: consent of instructor.

Phonology, morphology, and syntax of the Pali language with readings of early Buddhist texts from the Pali Canon.

203. Introduction to Ugaritic

(4) GARR

Prerequisite: Religious Studies 142A or equivalent.

Basic grammar of the Ugaritic language, selected readings in Ugaritic mythological literature, and discussion of the relationship between Ugaritic literature and the Hebrew Bible.

204. Religious Literature in Vedic Sanskrit

(4) LARSON

Prerequisites: Religious Studies 159A-B-C or equivalent.

Phonology, morphology, and syntax of Vedic; and reading of Rig Veda I. 1, I.32, X.90, X.129, and other hymns.

205. Religious Literature in Coptic

(4) PEARSON

Prerequisites: Religious Studies 138A-B-C or equivalent. Course content variable; may be repeated.

Study of selected Coptic religious texts in the Sahidic, Sub-Achmimic, Achmimic, or Bohairic dialects.

206. Seminar on Indic Religious Studies

(4) LARSON, HOLDREGE

Prerequisites: Religious Studies 159A-B-C or equivalent.

Analysis and interpretation of selected research topics in South Asian religion and thought. Attention to research methodology and the use of primary source materials.

207. Guided Readings in Classical Sanskrit Religious Texts

(4) LARSON

Prerquisites: course content variable; may be repeated.

Selected readings in classical Sanskrit, Pali, and Vedic religious texts.

208 A-B-C. Guided Readings in Hebrew Religious Texts

(4) GARR

Course content variable. Selected readings in Biblical Hebrew texts. Course may be repeated.

210. Guided Readings in Arabic Religious Texts

(4) CAMPO

Prerequisites: Arabic I-VI (Religious Studies 10A-F) or consent of instructor.

Selected readings on Islamic subjects in Arabic. Focus on scripture, interpretation, and religious biography.

216A-B-C. Computer-Assisted Research

(4-4-4) STAFF

Prerequisite: graduate status.

This course is intended to introduce and develop computer methods of research within the terms of textual and information management efforts in religious studies.

218. Computer-Assisted Textual Analysis

(4) STAFF

Prerequisite: previous computer training course.

Application of computer methods to the research demands of textual analysis in religious studies.

228. Seminar on Religion and Violence

(4) HECHT

Prerequisite: graduate standing or consent of instructor.

This seminar examines the relationship between religion and violence as a new problem for the history of religions. Readings for the seminar will reflect the major theoretical positions taken in the debate over whether violence is essential or secondary to religious symbolizations.

229. The Archaeology of Religious Knowledge

(4) STAFF

An investigation of the relevance to religious studies, particularly to the history of religions, of the work of the philosopher/historian Michel Foucault.

230. Seminar in the History and Theory of Religion

(4) STAFF

Scholarly perspectives and disciplinary approaches to critical study and research in the history and theory of religion.

231. Phenomenology of Religion

(4) SMART

The course involves an examination of some approaches to phenomenology in recent literature; and then examines specific concepts and phenomena, such as worship, shamanism, sacrament, and religious identity.

232. Religion and Philosophy: Theories and Method

(2-4) COMSTOCK

Prerequisite: course content variable; may be repeated.

A survey of ways in which religion and philosophy have been related in the history of western civilization. Religious metaphysics, theology, and the approach of contemporary analytic philosophy to religion are considered.

233. Religion and Literature: Theories and Method

(2-4) COMSTOCK

Prerequisite: course content variable; may be repeated.

A survey of the work of literary critics and religious thinkers who have developed connections between the study of literature and religious thought.

235. Seminar in Western Religious Thought

(4) CAPPS

Historical and critical examination of selected figures and movements.

237. Seminar in Religion and Psychology

(4) STAFF

A review of major theorists in the psychology of religion, including Freud, Jung, Maslow, Erikson, Kohlberg, and others, and their significance for the field of religious studies.

238. Seminar in Modern Religious Thought

(4) COMSTOCK, SMART

Detailed examination of the intellectual structures of major nineteenth- and twentieth-century representatives of western religious thought. Emphasis on methodologies and systematic form of basic positions.

239. Seminar in Religion and Ethics

(4) ROOF

A review of theory and research on religion and ethics. Topics include moral pluralism, modes of religious thinking about behavior, and selected moral problems in the contemporary world.

240. Seminar in the Sociology of Religion
(4) HAMMOND, ROOF

Prerequisite: course content variable; may be repeated.

Detailed examination of major figures, schools, and types of research.

243. Seminar in Religion & Society: Research Methods
(4) ROOF

Prerequisite: consent of instructor

Applied research experience, with attention to practical aspects of research such as interviewing, field work, analysis, and write-up.

244. Problems in Religion and Society
(4) HAMMOND, ROOF

Prerequisite: graduate standing or consent of instructor. Course content variable; may be repeated.

Influence of religion upon society and society upon religion; institutional roles; transcendent referents; law and justice; value conflicts. Analysis of the thought of one or more major figures.

245A. Seminar in African-American Religious History
(4) STAFF

Prerequisite: consent of instructor.

A historical examination, beginning with West African heritage, of Afro-American religious leaders and organizations in the United States during slavery and until the end of the nineteenth century.

245B. Seminar in African-American Religious History
(4) STAFF

A historical survey of major Black religious figures, organizations, movements, philosophies, and issues. Emphasis on contemporary religious phenomena in the Black religious community of the United States during the twentieth century.

246. Seminar in Comparative Mysticism
(4) SMART, LARSON

Historical and comparative analysis of selected mystical traditions in the East and the West.

247. Seminar in Native American Religious Traditions
(4) TALAMANTEZ

Course content variable; may be repeated.

Historical and critical examination of selected figures, categories, and phenomena pertaining to the diversity of Native American religious traditions.

249. Islam in the History of Religions: Basic Problems
(4) CAMPO

Prerequisites: Religious Studies 140 A-B-C, or D; or 200 A-B-C.

Analysis of selected issues that highlight the continuities and discontinuities between the study of Islam and the comparative study of religions — e.g., texts and contexts, sacred space and time, ritual, society, human-divine relations, peace and violence, saints.

250. Seminar in the History of Religions
(4) LARSON

Course content variable; may be repeated.

Comparative study of selected religious structures or symbols, from eastern and/or western religious traditions.

251. Seminar in Hellenistic Religions
(4) PEARSON

Prerequisite: reading knowledge of Greek required. Course content variable; may be repeated.

Historical and critical examination of selected figures, texts, and phenomena pertaining to Graeco-Roman religion.

252. Seminar in Christian Origins
(4) PEARSON

Prerequisite: Religious Studies 116 or equivalent. Course content variable; may be repeated.

Historical and critical examination of selected figures, ideas, and movements pertaining to nascent Christianity.

253. Seminar in Hellenistic Judaism
(4) HECHT, PEARSON

Prerequisite: knowledge of Greek or Hebrew highly recommended.

Historical and critical examination of selected figures, texts, and phenomena pertaining to Judaism in the Graeco-Roman world, and its interaction with Hellenistic culture and religion.

255. Seminar in Comparative Hindu-Buddhist Thought
(4) LARSON

Thematic and comparative analyses of Hindu theological traditions in India with Buddhist philosophical traditions in South and East Asia. Analysis of such problems as Hinduization, Sanskritization, Chinese Buddhist appropriation of Indian ideas, and methodological presuppositions for cross-cultural study.

257. Seminar in Buddhist Studies
(4) LARSON

Historical, philosophical, and bibliographic analysis of selected traditions within Buddhism. Also, consideration of the relation of Buddhist traditions to related phenomena within Hinduism.

258. Seminar in Religion in America
(4) ALBANESE

Prerequisite: graduate standing or consent of instructor. May be repeated.

Examination of selected topics in American religion to investigate its basic religious structures and to explore the relationship of religious phenomena to their cultural context. Course content variable.

259. Topics in East Asian Buddhist Thought
(4) POWELL

A historical and critical analysis of selected issues in the development of Buddhist thought in China, Korea, and Japan.

260. Seminar on Religion and Art in Indian Asia
(4) LARSON

A study of the relation between the religious and the aesthetic in the cultures of Indian Asia, with special reference to the morphology and iconography of the mother goddess.

262. Seminar in Comparative Philosophy of Religion
(4) LARSON, SMART

Prerequisite: Religious Studies 200A-B-C or consent of instructor.

Study of the basic principles for doing systematic religious thought in a cross-cultural context, based on a critical reading and analysis of selected systematic thinkers—e.g., Nagarjuna, Plotinus, Sankara, Chu Hsi, Aquinas, Kant, Hegel, et al.

263A-B. Seminar on Religion and Societal Change
(4-4) HECHT

Prerequisite: may be repeated. Same course as Sociology 263A-B.

This seminar examines the role of religion in societal change.

A: Will discuss major theories from Durkheim and Weber to Rokkan and Foucault.

B: Will consider specific cases which will vary from year to year.

264. Problems in the Study of Japanese Religions
(4) GRAPARD

Prerequisites: Religious Studies 200A-B-C or consent of instructor.

An analysis of methodological issues raised by the study of Japanese religions; their relevance for the field of history of religions.

270. Seminar in Religious Myth and Symbol
(4) COMSTOCK, HOLDREGE

A detailed survey of important approaches to religious myth and symbolism. The various methods of literary analysis, anthropological and sociological study, linguistic analysis, and the phenomenology of religion will be considered.

272A-B. Religion and the Humanistic Disciplines
(4-4) COMSTOCK

An examination of methods by which religious studies can be related to such fields as literature, art, philosophy, psychology, and sociology.

273. The Problem of Cosmologies
(4) SMART

This seminar in the philosophy of religion will focus on the relation between traditional religious cosmologies and modern scientific views of the cosmos. Two main issues will be treated: the way in which cosmological symbolisms can clash with scientific knowledge, and the way in which religious and scientific truths differ in their sources.

290. Seminar in Major Texts and Figures
(4) STAFF

Prerequisite: course content variable; may be repeated.

Seminar focuses on an intensive study of a major text or figure within a religious tradition.

291. Seminar in Hebrew Bible
(4) GARR, HECHT

Prerequisites: Religious Studies 115A or equivalent; Religious Studies 142A or 142B, or equivalent. Course content variable; may be repeated.

Critical examination of selected texts in the Hebrew Bible, as well as interpretive and historical problems pertaining thereto.

520A. Religion, Ideology, and an Emerging World Culture
(4) SMART

Traditional religions, especially Christianity and Buddhism, in interplay with secular ideologies (such as Marxism, liberal humanism, nationalism), with a view to investigating the patterns of unity developing in the various cultures in the world.

591. T.A. and Associate Training Program
(1-4) STAFF

Prerequisite: may be repeated; no unit credit allowed toward advanced degree.

Required orientation and on-the-job training of teaching assistants and associates through consultations with instructors, evaluation of their teaching through videotapes or other means of observation, follow-up consultations, teaching, evaluation.

592. Directed Reading
(1-12) STAFF

Prerequisite: course content variable; may be repeated.

Special readings selected under guidance of individual instructor to help students make up particular gaps in their intellectual backgrounds that are pertinent to their graduate program.

593. Colloquium
(4) STAFF

Prerequisite: course content variable; may be repeated.

A series of discussions involving panels, debates, special speakers, etc., at which the presence of all enrolled graduate and selected faculty is required.

594AA-ZZ. Special Topics
(1-12) STAFF

Special seminar on research subjects of current interest.

595AA-ZZ. Group Studies
(1-12) STAFF

Critical review of research in selected fields.

596. Directed Reading and Research
(1-12) STAFF

Research and preparation of dissertation.

597. Individual Study for Master's or Ph.D. Examinations for Advancement to Candidacy
(1-12) STAFF

No unit credit allowed toward advanced degree.

598AA-ZZ. Master's Project Research and Preparation
(1-12) STAFF

Prerequisite: no unit credit allowed toward advanced degree.

For research underlying the project, writing the project.

599AA-ZZ. Ph.D. Dissertation Preparation
(1-12) STAFF

Terminal preparation of the dissertation.

Language Offerings in Religious Studies

Arabic: see Religious Studies 10A-G, 210
Chinese: see Religious Studies 166F-H
Coptic: see Religious Studies 138, 205
Greek: see Religious Studies 139
Hebrew: see Religious Studies 17A-B-C, 142A-B-C
Hindi: see Religious Studies 11A-B-C, 181A-B-C
Pali: see Religious Studies 202
Sanskrit: see Religious Studies 159A-L, 204, 207
Syriac: see Religious Studies 19A-B-C
Targumic Aramaic: see Religious Studies 18A-B
Tibetan: see Religious Studies 203

Renaissance Studies

Renaissance Studies Program,
Division of Humanities and Fine Arts,
Department of English, South Hall 2607;
Telephone (805) 893-3441
Program Chair: Patricia Fumerton

Advisory Committee

Patricia Fumerton, Ph.D. (English)

Ann Moyer, Ph.D. (History)

Cynthia Skenazi, Ph.D. (French)

Robert J. Williams, Ph.D. (Art History)

Affiliated Faculty

Lee Bliss, Ph.D. (English)

Alfred A. Bonadeo, Ph.D. (Italian)

Jorge Checa, Ph.D. (Spanish)

Robert G. Egan, Ph.D. (Dramatic Art)

Abraham Friesen, Ph.D. (History)

Donald Guss, Ph.D. (English)

Gerhart Hoffmeister, Ph.D. (German)

Peter T. Meller, Ph.D. (Art History)

Alfred K. Moir, Ph.D. (Art History)

Michael O'Connell, Ph.D. (English)

Alejandro Planchart, Ph.D. (Music)

Robert Potter, Ph.D. (Dramatic Art)

William Prizer, Ph.D. (Music)

Mark Rose, Ph.D. (English)

Paul M. Sonnino, Ph.D. (History)

Homer Swander, Ph.D. (English)

Ronald W. Tobin, Ph.D. (French)

Burr E. Wallen, Ph.D. (Art History)

The interdisciplinary major in Renaissance Studies is intended to serve students interested in an undergraduate liberal arts major, as well as those who plan to pursue graduate studies in the field. Coursework leading to a B.A. in Renaissance Studies may be done in English and European literatures, history, art, and music. With the assistance of members of the advisory committee, students will set up individual programs structured by their special interests. Students should consult with their advisers each quarter from the beginning of their junior year to have their programs formally approved and to learn about special Renaissance Studies courses. Students are also encouraged to consider spending one of their undergraduate years in a European university through the Education Abroad Program.

After completing specific prerequisites, students with a bachelor's degree in Renaissance Studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Bachelor of Arts—Renaissance Studies

Preparation for the major. Required: History 4A-B and a reading knowledge of Latin or a modern European language to be certified by examination. Recommended: Art History 6C; Classics 37, 38, 40; English 20.

Upper-division major. Forty upper-division units are required, including (1) History 121D-E; (2) Renaissance Studies 100; and (3) 28 additional units from the following list, with the selection forming a coherent unit that must be approved by a member of the advisory committee.

Art History 155B-C-D, 156A-B-C-D-E-F-G-H
Classics: a maximum of 12 units chosen in consultation with a faculty adviser
Dramatic Art 160B
English 102A, 117A-B-C-E, 118, 144, 145, 146, 151D, 151S, 157, 162
French 106A, 140A-B-C, 141X, 149
German 167
History 106A, 114C, 122A-B, 140A-B-P, 150A-B, 153, 154A, 155A, 156A
Italian 110C, 114Z, 115X, 116A-B-C-X-Y, 139X-Y
Music 102, 112B, 180
Portuguese 105A-B, 114, 132A-B
Religious Studies 100
Renaissance Studies 199
Spanish 110B, 115A, 123A, 131, 134, 137A-B, 140A-B, 141

Renaissance Studies Courses

UPPER DIVISION

100. Studies in Renaissance Civilization

(4) STAFF

Course may be repeated for credit with consent of program chair.

An introduction to the interdisciplinary study of Renaissance civilization. Specific topics will vary from year to year and may include such subjects as Medici Florence, fifteenth-century Burgundy, Renaissance Neo-Platonism, Renaissance humanism, or Renaissance Petrarchism.

199. Independent Studies in the Renaissance

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in renaissance studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Not more than 12 units total of Renaissance Studies 199 may be taken.

Study or research under the guidance of a member of the advisory committee for seniors of high scholastic standing. Students wishing to enroll should prepare a short plan of study for their coursework.

Sociology

Department of Sociology,
Division of Social Sciences,
Ellison Hall 2834;
Telephone (805) 893-3314
Department Chair:
William T. Bielby

Faculty

Richard P. Appelbaum, Ph.D., University of Chicago, Professor *(urban political economy, community development, public policy, Marxism, sociology of housing, global economic systems)*

Janice I. Baldwin, Ph.D., UC Santa Barbara, Lecturer *(human sexuality, gender, AIDS)*

John D. Baldwin, Ph.D., Johns Hopkins University, Professor *(G. H. Mead, human sexuality, socialization, capitalism, micro-macro synthesis)*

Kum-Kum Bhavnani, Ph.D., Cambridge University, Assistant Professor *(culture, gender, ethnicity, racism, feminist epistemology, social psychology/representations theory)*

Denise D. Bielby, Ph.D., University of Wisconsin, Associate Professor *(gender, popular culture, work, aging and the life course)*

William T. Bielby, Ph.D., University of Wisconsin, Professor *(organizations, quantitative methods, work, popular culture)*

Robert H. Billigmeier, Ph.D., Stanford University, Professor Emeritus

Jon D. Cruz, Ph.D., UC Berkeley, Assistant Professor *(sociology of culture, social theory, race and ethnicity, mass media, popular culture)*

Otis Dudley Duncan, Ph.D., University of Chicago, Professor Emeritus

Mitchell Duneier, Ph.D., University of Chicago, Assistant Professor *(race and ethnic relations, gender, law, urban sociology, qualitative methods)*

Simonetta Falasca-Zamponi, Ph.D., UC Berkeley, Assistant Professor *(sociology of culture, political sociology, historical sociology, Western European studies)*

Sarah Fenstermaker, Ph.D., Northwestern University, Professor *(work and gender, feminist inquiry, feminist theory)*

Sethard Fisher, Ph.D., UC Berkeley, Professor *(social and personal change, socialization, social welfare, race relations)*

Richard Flacks, Ph.D., University of Michigan, Professor *(political sociology, social movements, political consciousness)*

John Foran, Ph.D., UC Berkeley, Assistant Professor *(development and social change, Middle Eastern studies, Latin American studies, comparative historical methods, social theory, political sociology, social movements)*

Morris F. Friedell, Ph.D., University of Chicago, Associate Professor *(humanistic sociology: personal and political)*

Roger O. Friedland, Ph.D., University of Wisconsin, Professor *(cultural theory, economy and society; religion and societal change; space, time, and social theory)*

David Gold, Ph.D., University of Chicago, Professor Emeritus

Avery F. Gordon, Ph.D., Boston College, Assistant Professor *(feminist studies, feminist theory, social theory, cultural studies)*

Gene H. Lerner, Ph.D., UC Irvine, Assistant Professor *(conversation analysis, classroom interaction, social aspects of syntax, computer tools for qualitative analysis)*

Connie L. McNeely, Ph.D., Stanford University, Assistant Professor *(political sociology, comparative and historical sociology, development, sociology of culture, race and ethnicity, complex organizations, quantitative and historical methods)*

John Mohr, Ph.D., Yale University, Assistant Professor *(complex organizations, historical sociology, welfare state, culture)*

Harvey L. Molotch, Ph.D., University of Chicago, Professor *(urban growth, media studies, domination, economy and society)*

Thomas J. Scheff, Ph.D., UC Berkeley, Professor Emeritus

Beth E. Schneider, Ph.D., University of Massachusetts, Associate Professor *(sexuality, feminist theory, social movements, AIDS)*

Gary I. Schulman, Ph.D., Stanford University, Associate Professor *(social psychology, methods, sex roles, small groups analysis, hypnosis as a research tool)*

Denise Segura, Ph.D., UC Berkeley, Assistant Professor *(Chicana/Chicano studies, feminist studies, gender, family, work, race-ethnic relations)*

Tamotsu Shibutani, Ph.D., University of Chicago, Professor Emeritus

John A. Sonquist, Ph.D., University of Chicago, Professor Emeritus

Bruce C. Straits, Ph.D., University of Chicago, Associate Professor *(social contexts of attitudes and actions, social networks, methodology, demography)*

John R. Sutton, Ph.D., UC Davis, Associate Professor *(organizations, law/social control/deviance, comparative sociology, culture)*

Thomas P. Wilson, Ph.D., Columbia University, Professor *(ethnomethodology, conversation analysis, theory)*

Raymond Sin-Kwok Wong, Ph.D., University of Wisconsin, Assistant Professor *(social stratification, comparative sociology, methods and statistics, sociology of economic change, demography)*

Don H. Zimmerman, Ph.D., UC Los Angeles, Professor *(conversation analysis, analysis of natural settings, ethnomethodology)*

Affiliated Faculty

Noah E. Friedkin, Ph.D. (Education)

Phillip E. Hammond, Ph.D. (Religious Studies)

Wade Clark Roof, Ph.D. (Religious Studies)

Sociology is the systematic study of social life. Sociologists seek to understand the process by which societies, communities, institutions, and organizations are created, maintained, undermined, and transformed, and the ways in which social life shapes individuals.

The undergraduate sociology major at UCSB accommodates students with varied purposes for studying sociology. First, for students who have a strong concern with society, the sociology major can be the core of a liberal arts education. Second, the major can be used as preparation for a career in such fields as law, management, journalism, social work, urban and environmental planning, teaching, corrections, counseling, and other service professions. Third, the sociology major can serve as preparation for graduate study for a career as a professional sociologist. The requirements for the sociology major are designed to provide students with a basic grounding in the theory and methods of the discipline, while providing latitude for students to explore individual interests.

The Department of Sociology is composed of men and women who are active contributors to the field. The department is recognized for its diversity of perspective and particularly for its support for emerging areas of study and innovative approaches to the discipline. The department has considerable strength in quantitative methods of research and analysis. The department participates in the Social Science Computing Facility (SSCF) which provides instructional computing support. The SSCF provides access to the mainframe and micro-computing, software consultation, and technical assistance. The department is also affiliated with the Community and Organization Research Institute, which conducts policy-related research in the social sciences.

Undergraduate majors, incoming students, and prospective majors are invited to consult the department undergraduate academic adviser about all aspects of planning a program in sociology.

After completing specific prerequisites, students with a bachelor's degree in sociology are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Undergraduate Program

Before admission to the sociology major, students must complete all sociology preparation for the major courses as specified below. Preparation for the major courses may not be taken on a passed/not passed basis. Students may declare the pre-sociology major after completion of at least one of the pre-major sociology courses (i.e. Sociology 1, 2, 3, or 4) with at least a 2.3 GPA in all pre-major courses completed at that time, and a 2.0 overall GPA. Students who declare the pre-major are responsible for satisfying degree requirements in effect at the time they declare the major. Pre-major status does not, however, guarantee admission to full major status. When pre-major requirements are satisfied, students should complete a change of major petition, available in the Sociology Undergraduate Advising Office, to declare full major status.

Bachelor of Arts—Sociology

Preparation for the major. To qualify for admission into the sociology major, students must complete Sociology 1, 2, 3 (or a PSTAT 5 series course), 4, and History 17B and 17C with a grade-point average of 2.3 or above. Sociology 3 (or a PSTAT 5 series course) should be completed before Sociology 4, which presupposes some knowledge of basic statistical concepts.

In addition, students must complete two courses from the following (excluded as part of the pre-major grade-point average computation): Anthropology 2, 4, 10; History 7, 9A, 9B, 17A; Economics 2 or 109; Political Science 1, 2, 3, 12 or 100, 15; Environmental Studies 11, 12; Psychology 1; Geography 5.

The concepts of diversity and ethnicity are fundamentally related to many of the sociological theories and issues considered in upper-division sociology courses. Therefore, the department requires that, in addition to fulfilling the Letters and Science ethnicity requirement, students take a diversity course from the following list (excluded as part of the pre-major grade-point average computation): Asian American Studies 1, 2, 3, 4, 5, 6, 7, 8; Black Studies 1, 2, 5, 6, 15, 20, 50; Chicano Studies 1A, 1B, 1C, 10, 11, 20, 21, 22; History 10, 11, 70A, 70B; Women's Studies 20, 30, 40, 50, 60.

Upper-division major. Forty upper-division sociology units are required, with at least 28 units taken from courses numbered 102-189, inclusively, distributed as follows:

One methods course chosen from Sociology 103, 104A-B, 107, 108CH, 108SS, 136Q, 136V, 141S, 171S.

One theory course chosen from Sociology 149, 185A, 185C, 185G, 185J, 185M, 185P, 185S.

One stratification/inequality course chosen from Sociology 122, 126U, 128, 128Q, 134, 137E, 139A-B, 144, 153, 153S, 154F, 155A-B-M-R-W, 159LG.

Two courses chosen from one of the following nine subject areas:

I. Methods of Sociological Research and Data Analysis (Sociology 103/103L, 104A/104AL, 104B/104BL, 104C/104CL, 107, 108CH, 108SS, 109, 112A, 112B, 136Q, 136V, 141S, 143, 171S).

II. Gender (Sociology 151, 153, 153S, 155A, 155B, 155M, 155R, 155W, 159LG, 159S, 185G).

III. Life Course, Socialization, and Interpersonal Relations (Sociology 138, 138E, 140, 141, 141F, 141S, 142, 143, 145, 147, 147M, 152A, 152B, 152H, 154A, 154B, 154F, 158, 169, 183A, 183B).

IV. Culture, Conversation Analysis, and Communication (Sociology 118C, 118G, 118J, 119A, 119B, 132, 133, 136, 136I, 136Q, 136V, 149, 178, 184, 185C).

V. Stratification, Inequality, and Ethnicity (Sociology 122, 126U, 128, 128Q, 129, 134, 137E, 139A-B, 144, 153, 153S, 155W, 159LG).

VI. Social Organization and Change (Sociology 102, 111, 120, 126, 131, 131H, 134, 134R, 138F, 148AA, 148BB, 150, 155M, 157, 160, 164, 167, 168E).

VII. Economy, Society, and Demography (Sociology 123, 130, 130LA, 130ME, 131R, 156, 166, 177, 187).

VIII. Deviance and Social Control (Sociology 170, 171, 172, 173, 174, 175, 176A, 176D, 178).

IX. Sociological Theory (Sociology 149, 185A, 185C, 185G, 185J, 185M, 185P, 185S).

Two additional courses chosen from any of the remaining eight subject areas.

Students may choose the remaining 12 units from upper-division sociology courses.

Note: The same course may not be used to fulfill the requirements in more than one of the areas listed above. The upper-division stratification/inequality course may also fulfill the General Education ethnicity requirement for the pre-major, if applicable.

Please note that Sociology 103, 104A-B, 108CH, 108SS, and 136V are open to all sociology majors. Sociology 107, 136Q, 141S, and 171S are more specialized courses with specific prerequisites and limited enrollments. Usually, each of these courses is offered just once per academic year. Accordingly, students should make plans concerning their methods course as soon as they achieve upper-division status.

The following restrictions apply to the major: Only 4 units each of Sociology 119A-B, 191EA-EZ, and 191I will apply to the upper-division major. In certain cases where there is clear programmatic relevance, the student may propose for consideration a maximum of 8 units of upper-division work in closely related fields as part of the 40 required units; however, these may not be substituted for specifically required courses. Acceptance is contingent upon approval of the department chair. Up to 8 units combined of the following courses may be taken P/NP for major credit: Sociology 146, 153S, 190A-CH, 191B, 194, 195H, 197H, 198, 199; all other major courses must be taken for letter grades.

Recommended Programs

1. Students considering graduate training for careers as professional sociologists are advised to take Sociology 103/103L to fulfill the upper-division methods requirement and Sociology 185A for the theory requirement. Both courses offer integrated perspectives on the traditions of sociological research or theory as a whole rather than concentrating on a major subfield in either area and therefore are more appropriate for graduate school preparation. Students should consider carefully their own special interests when deciding on the substantive courses necessary to fulfill the specialization and breadth requirements. Additionally, students should use the upper-division elective units (12) to increase their exposure to other areas in sociology. They should also seek individualized reading or research projects with faculty members. Students who anticipate applying for graduate school should discuss their programs at an early stage with the undergraduate adviser and a faculty member.

2. Students considering a career in public and social affairs should plan their programs with graduate study in mind, as such careers typically require study at the master's level in urban planning, social work, public affairs, business, law, or sociology. A program in public and social affairs should involve a background in methods and analysis, a foundation in computer skills, a basic knowledge of societal organization and change, a special focus on urban programs, and an in-depth knowledge of one or more additional areas of particular interest. Field experience through an internship (191A) is strongly recommended.

3. Students interested in acquiring technical skills in data management for careers in government, research, or business firms are advised to learn not only the technical aspects of research, but the sociological dimension as well: the institutional settings that frame policy-related problems, ways to formulate and conduct research programs, and intelligent interpretation of the results of analysis. Students should consult with an adviser to plan an appropriate program.

Honors Program in Sociology

As part of our participation in the College of Letters and Science Honors Program, the Department offers introductory-level sociology honors classes (Sociology 1H, 2H, 3H, and 4H), which are taught by the course professor, thus providing students with a unique opportunity for small group interaction with the instructor. A range of upper-division honors courses (152H, 195H, 197H, 198H) are also offered on a regular basis. In addition, eligible undergraduates may, with consent of the instructor, elect to fulfill an honors contract for any course. Eligible upper-division honors students may also participate in graduate courses numbered 200-299, by petition.

In addition to the general honors program, the Department of Sociology offers a two-quarter honors research practicum (196H-HT). Students enrolled in this seminar complete an original research project on a topic of their choice. To be eligible for the honors practicum (196H-HT) in sociology, students must have completed 105 units, including Sociology 1, 2, 3, and 4, have a minimum 3.5 cumulative grade-point average with a 3.5 grade-point average in upper-division sociology courses, and have completed at least 16 graded units in upper-division sociology courses at UCSB. In addition, it is strongly recommended that students interested in the honors research practicum acquire competency in the methodological area related to their specific research topic.

All qualified students are invited to apply at the Department of Sociology office before the end of the spring quarter prior to the year of requested admission to 196H-HT. All students must submit a writing sample from a social science course, excluding take-home examinations. All final decisions for admission to the honors program will be made by the program coordinator and will be based on the writing sample, standing in the major, and cumulative grade-point average. Students not meeting the minimal requirements may be nominated for consideration by a member of the faculty.

Graduation with Distinction

To be eligible to graduate with Distinction in the Major, honors students must complete, with a grade of B or better, a minimum of two graduate seminars in sociology and the two-quarter honors research practicum (Sociology 196H-HT) which includes the presentation of an honors thesis. Students must also maintain a 3.5 cumulative grade-point average and a 3.5 grade-point average in upper-division sociology courses.

Alpha Kappa Delta

The Department of Sociology also sponsors the Tau of California Chapter of Alpha Kappa Delta, the national sociology honors society. Membership in Alpha Kappa Delta is restricted to outstanding students who have completed a minimum of 90 units with a cumulative grade-point average of at least 3.5, and with a 3.5 grade-point average in at least 16 upper-division graded sociology units taken at UCSB.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Master of Arts—Sociology

Admission

The department does not admit students for terminal M.A. degrees. Because the M.A. program in sociology is designed to prepare students for the Ph.D. program, students should normally apply for admission to both. However, continuation to the Ph.D. program is dependent upon the student's ability to conduct research at the Ph.D. level. Applications are accepted for fall only; the deadline is February 15. The application deadline for fellowship support is January 31. In addition to the information required in the application for admission to graduate status, applicants must submit scores on the Aptitude Test of the Graduate Record Examination and a sample of written work in sociology.

Applicants should have training substantially equivalent to the undergraduate major in sociology at UCSB, including research methods, statistics, and the development of sociological theory. Students with inadequate backgrounds in these areas may be admitted, but they are expected to make up deficiencies during their first year of study.

Degree Requirements

Usually the M.A. degree is awarded according to the university's Plan 1; 36 units of coursework, of which at least 18 must be graduate units; submission of an acceptable thesis based on empirical research; and an oral comprehensive examination. The thesis is written under the supervision of the student's advisory committee, and prior to the comprehensive examination the student must have satisfied the committee's recommendations concerning the breadth and intensiveness of preparation, including theory, research methods, and formal analysis techniques. Required coursework must be completed by the end of the quarter in which the examination is taken.

To receive an M.A. degree the student must receive a "pass" or higher grade on the comprehensive examination, to continue in the Ph.D. program, the student must receive a "high pass" or an "honor pass." The M.A. program should normally be completed by the end of the second year, but a student may petition for an extension.

Doctor of Philosophy—Sociology

Admission

All candidates should have training substantially equivalent to that required for the B.A. and M.A. in sociology at UCSB, including courses in research methods, statistics, and the development of sociological theory. Students admitted with an M.A. in sociology who have not met these requirements must complete them within two years of being admitted to the Ph.D. program. In addition to fulfilling the general requirements for admission to graduate status, the applicant must submit scores on the Aptitude Test of the Graduate Record Examination and a sample of written work in sociology.

Degree Requirements

Each student must pass a written preliminary examination in two areas of specialization, based on approved bibliographies in the selected areas. An oral qualifying examination, administered by a committee approved by the Graduate Dean, follows the written examination and normally focuses on the student's major area of specialization and proposed research. No skill in a foreign language is required, but a student whose specialty requires knowledge of such a language will be required to demonstrate competence.

The candidate must complete a dissertation and will be called upon for an oral defense of it.

Sociology Courses

LOWER DIVISION

1. Social Organization

(4) STAFF

The systematic study of human society; the structure of social groups, institutions, and soci eties, and their relationships to cultural patterns.

1FS. Freshman Seminar

(4) STAFF

May not be repeated for credit.

A seminar specifically for freshmen discussing current topics of interest in sociology. Topics will vary depending on the professor teaching.

1H. Social Organization — Honors

(1) STAFF

Prerequisites: concurrent enrollment in Sociology 1 and consent of instructor. Students must meet departmental honors criteria.

Eligible students will be invited to enroll in the honors seminar which will generally be taught by the course instructor. Such students will receive one unit for the honors seminar for a total of 5 units in Sociology 1-1H.

2. Social Psychology

(4) STAFF

An introduction to theories of social psychology used in sociology. Topics covered vary with instructor and may include analysis of the nature of "self" and personal identity, conformity and autonomy, persuasion and attitude change, dynamics of small groups, exchange theory, interpersonal relations, processes of personal growth, and their relationship with societal institutions.

2H. Social Psychology — Honors

(1) STAFF

Prerequisites: concurrent enrollment in Sociology 2 and consent of instructor. Students must meet departmental honors criteria.

Eligible students will be invited to enroll in the honors seminar which will generally be taught by the course instructor. Such students will receive one unit for the honors seminar for a total of 5 units in Sociology 2-2H.

3. Introduction to Quantitative Sociological Studies

(4) STAFF

Not open for credit to students who have received credit for PSTAT 5AA-ZZ equivalent.

An introduction to the fundamentals of quantitative analysis to enable students to interpret findings of social research so they will be prepared for advanced coursework in sociology and able to intelligently participate as citizens in an increasingly statistically oriented society.

3H. Introduction to Quantitative Sociological Studies — Honors

(1) STAFF

Prerequisites: concurrent enrollment in Sociology 3 and consent of instructor. Students must meet departmental honors criteria.

Eligible students will be invited to enroll in the honors seminar which will generally be taught by the course instructor. Such students will receive one unit for the honors seminar for a total of 5 units in Sociology 3-3H.

4. Sociological Research Traditions

(4) STAFF

Prerequisite: Sociology 3 or a PSTAT 5 series course.

Introduction to the basic language, logic, and techniques of major research traditions. Critical thinking in social science, and relation of theory to research in, for example, experiments, surveys, observational studies, historical and comparative approaches, and the use of available data.

4H. Sociological Research Traditions - Honors

(1) STAFF

Prerequisites: concurrent enrollment in Sociology 4 and consent of instructor. Student must meet departmental or college honors criteria.

Eligible students will be invited to enroll in the honors seminar which will generally be taught be the course instructor. Such students will receive one unit for the honors seminar for a total of 5 units in Sociology 4/4H.

91A. Field Placement in the Helping Professions: Relationships

(2) STAFF

Prerequisite: consent of instructor. Enrollment by application only. No more than four units of 91A-Z may be applied towards overall unit credit.

This course will explore issues in relationships, with emphasis on sexuality, self-esteem, and birth control. Students will be trained as peer health educators which includes study of self-awareness, communication skills, and values clarification within the context of relationship choices. Eating disorders are emphasized in spring quarter.

91B. Field Placement in the Helping Professions: Alcohol and Drugs

(2) STAFF

Prerequisite: consent of instructor. Enrollment by application only. No more than four units of 91A-Z may be applied towards overall unit credit.

This course presents issues involved in making realistic health choices about the use of alcohol and drugs. Through lecture and small group discussions, students study self-awareness, communication skills, and values clarification with emphasis on substance abuse. Students will be trained as peer health educators.

91C. Field Placement in the Helping Professions: Nutrition

(2) STAFF

Prerequisite: consent of instructor. Enrollment by application only. No more than four units of 91A-Z may be applied towards overall unit credit.

This course provides a focused study of the issues involved in making realistic health choices about nutrition. Through lecture and small group discussions, students will study self-awareness, communication skills, and values clarification with special emphasis on nutrition. Students will be trained as peer health educators.

91D. Field Placement in the Helping Professions: Stress in Relationships

(2) STAFF

Prerequisite: consent of instructor. Enrollment by application only. No more than four units of 91A-Z may be applied towards overall unit credit.

This course will assist students to manage stress with particular emphasis on stress in relationships. Students will study self-awareness, communication skills, and values clarification with emphasis on stress management.

91E. Field Placement in the Helping Professions: Impact of Culture

(2) WHITE

Prerequisite: consent of instructor. Enrollment by application only. No more than 4 units of 91A-Z may be applied towards overall unit credit.

This course focuses on the impact of cultural differences on utilization of health resources and on health care needs of diverse populations. Through lecture and small group discussion, students will explore these issues and be trained as Peer Health Educators.

98. Readings in Sociology

(1-4) STAFF

Prerequisites: (1) minimum 3.0 cumulative grade-point average; (2) consent of instructor and department chair. May be repeated for credit to a maximum of 8 units. No unit credit allowed toward the major.

Critical reviews and discussions of related topics in sociology under the guidance of a faculty member. Students wishing to enroll must prepare a short plan of study.

99. Introduction to Research in Sociology

(1-4) STAFF

Prerequisites: (1) minimum 3.0 cumulative grade-point average; (2) consent of instructor and department chair. May be repeated for credit to a maximum of 8 units.

Independent research under the guidance of a faculty member in the department. Course offers exceptional students the opportunity to undertake independent research or work in a research group. Students wishing to enroll must prepare a short plan of study.

UPPER DIVISION

102. Sociology, the University, and Society

(4) FLACKS

Prerequisite: upper-division standing or one prior course in sociology.

Among the main topics are: society, the university, and the discipline. Subtopics include: social and personal responsibility, the university and social change, departmentalization of knowledge, decision making in the university, clientele of university, concept of academic freedom, student power, ethnic and other minorities, organization of profession of sociology, and professional vs. liberal education.

103. Methods of Sociological Research

(4) STRAITS

Prerequisite: Sociology 3 or equivalent, Sociology 4, upper-division standing, or consent of instructor.

Fundamentals of designing, conducting, and analyzing social surveys. While the main focus is on survey techniques, problems of design and interpretation in experimental and observational studies are touched upon in terms of similarities and contrasts.

104A. Fundamentals of Data Analysis in Sociology

(4) BIELBY W., WILSON, WONG

Prerequisites: PSTAT 5A-Z or equivalent. Concurrent enrollment in Sociology 104AL-BL.

Basic techniques for the analysis of sociological data using linear models. Emphasis is on sociological application; the course will cover the use of bivariate, multi-variate, and multiple-equation models in sociological research. Sociology 104A is a prerequisite to Sociology 104B.

104B. Fundamentals of Data Analysis in Sociology

(4) BIELBY, W., WILSON, WONG

Prerequisites: PSTAT 5A-Z or equivalent. Concurrent enrollment in Sociology 104AL-BL.

Basic techniques for the analysis of sociological data using linear models. Emphasis is on sociological application; the course will cover the use of bivariate, multi-variate, and multiple-equation models in sociological research. Sociology 104A is a prerequisite to Sociology 104B.

104AL-BL. Laboratory in Data Analysis in Sociology

(2-2) BIELBY W., WILSON, WONG

Prerequisite: concurrent enrollment in Sociology 104A-B.

Practical application of methods learned in Sociology 104A-B using computer programs to estimate and study properties of sociological applications of statistical properties. Preparation of reports of analyses of data.

107. Demographic Analysis

(4) STRAITS

Prerequisite: upper-division standing or a prior course in sociology.

Analysis of published demographic research with special reference to the accuracy of data from censuses and other sources; standardization and other methods for controlling differences in population composition; computation and use of rates and indexes, population estimates and projections.

108CH. Comparative and Historical Methods in Sociology

(4) FORAN

Prerequisite: upper-division standing or one prior course in sociology.

A survey of the methods of comparative-historical sociology, with case studies drawn from various periods and places, including the United States, Europe and the Third World; relationships between theory, methods, evidence, research strategies, and logic will be stressed.

108SS. Observational Methods in Social Science Research

(4) ZIMMERMAN

Prerequisite: Sociology 1, 2, or consent of instructor.

An introduction to the observation and analysis of social activities in natural settings. The course covers both participant and non-participant observation using case studies from the literature and practical exercises in field observation.

109. Introduction to Computing for Social and Behavioral Sciences

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

Introductory computer science concepts, programming principles, and fundamentals of information processing as it applies to research and text processing in social science research.

111. Computers in Society

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

An introduction to computers, their applications, and their impact on people and social institutions. Social problems created by computer use and remedies will be discussed. Information will be presented to urge constructive and creative thinking about technology, its uses, and its social impact.

112A-B. Practicum in Social Research

(4-4) STRAITS

Prerequisites: upper-division standing or one prior course in sociology. Consent of instructor.

This two-quarter sequence deals with study design, conceptualization, measurement, and data collection. Students will be working on a single research project conducted over two quarters.

118C. Sociology of Culture

(4) MCNEELY, SUTTON

Prerequisite: upper-division standing or one prior course in sociology.

A broad introduction to the sociological study of culture, organized around theoretical perspectives, definitional and analytical problems, the production of culture, and cultural effects on society.

118G. American Cultural Representations and Myths

(4) GORDON

Prerequisites: upper-division standing or consent of instructor.

Exploration of selected range of cultural representations of America, focusing on the various dreams and myths that comprise our national identity. Attention to the impact of race, class and gender on American culture. Use of variety of mediums including film, television, ethnography, photography, and poetry.

118J. Jesus, Judaism and the Origins of Christianity

(4) FRIEDLAND

Prerequisite: upper-division standing and a 3.00 grade-point average.

A sociohistorical perspective that analyzes the relationship between the jesus movement and the jewish society of his day. Examines the organization and meaning of sanctity and sovereignty, and positions the jesus movement within the politics of these institutions.

119A. Sociology of News

(4) STAFF

Prerequisite: formal work on Daily Nexus, or other public media of communication.

Application of social science methodology to investigatory journalism. Study of social factors affecting the nature of news as it finally emerges in the mass media.

119B. Sociology of News

(4) STAFF

Prerequisites: Sociology 119A or consent of instructor. Formal work on Daily Nexus, or other public media of communication. Maximum of four units only from Sociology 119A-B will count toward the sociology major.

Continuation of work in Sociology 119A.

120. The Community

(4) APPELBAUM, MOLOTCH

Prerequisite: upper-division standing or one prior course in sociology.

Structure and dynamics of the local community. Comparative and historical analysis of rural, urban, and suburban communities and neighborhoods. Study of organizations, power structure, status groupings, communication processes, socialization, factional conflict, social control, ecology, equilibrium, and change.

122. Social Stratification

(4) WONG

Prerequisites: Sociology 1, 2, 3, and upper-division standing.

The nature of social classes and class relations, emphasizing contemporary studies of American society.

123. Population

(4) STRAITS

Prerequisite: upper-division standing or one prior course in sociology.

Population composition and change; differential fertility and mortality of sociocultural groups; internal and international migration; population theory and national policies; problems in areas of population pressure.

126. Urban Society

(4) APPELBAUM, MOLOTCH

Prerequisite: upper-division standing or one prior course in sociology.

Problems of the city (e.g., congestion, homelessness, violence), are examined in light of larger economic and social forces which structure urban life. Through use of slides depicting urban settings, causes and consequences of different ways urban settlements have been organized are considered.

126U. Sociology of the Urban Underclass

(4) STAFF

Prerequisite: upper-division standing or one prior course in Sociology.

This course examines conservative, liberal, and radical perspectives on class, poerty, and race, and will allow a critical assessment of the social and political implications of the growing congruity between urban poverty and race.

128. Interethnic Relations

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

Patterns of racial and ethnic relations, with particular emphasis upon minorities in the United States.

129. Economy and Ethnicity in American Society

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

Factors determining the ethnic stratification of American society will be examined in light of theoretical and empirical research on discrimination, ethnic economy, segmented labor markets, achievement motivation. The seminar seeks to combine both cultural and structural factors in explaining the differential socioeconomic achievement of ethnic groups in contemporary American society.

130. Sociology of Development

(4) FORAN

Prerequisites: upper-division standing or one prior course in sociology.

Survey of development and social change, emphasizing the Third World; modernization, dependency and other theories applied to cases drawn from Latin America, Asia, and Africa; examination of social structure, culture, social problems, and mechanisms of change.

130LA. Development and Social Change in Latin America

(4) FORAN

Prerequisites: upper-division standing and one course in sociology or consent of the instructor.

Examines significant instances of economic, political, cultural, and social change in contemporary Latin America. Employs various perspectives to illuminate such phenomena as changing social structures, industrialization, social movements, the state, multinationals, the military, and international pressures.

130ME. Development and Social Change in the Middle East

(4) FORAN

Prerequisites: upper-division standing and one course in sociology , or consent of the instructor.

Surveys major instances of economic, political, cultural, and social change in the Middle East, historically and in the contemporary period. Assesses changing social structures, social movements, the role of Islam, and topics in Iran, Egypt, and Turkey, among others.

131. Political Sociology

(4) FLACKS

Prerequisite: upper-division standing or one prior course in sociology.

Social and cultural bases of the political process; the study of power and authority as reflecting the interplay of interests and values; analysis of continuities and discontinuities in the democratic political system.

131H. Politics and Religion in the City: The Case of Jerusalem

(4) FRIEDLAND

Prerequisite: upper-division standing or a prior course in sociology or religious studies. Same course as Religious Studies 131H.

This course examines relationships between religion and politics in Jerusalem. As a sacred center for Judaism, Christianity, and Islam, and national center for Israelis and Palestinians, Jerusalem provides the unique opportunity to examine co-existing groups holding opposing world views.

131R. Sociology of the Modern State

(4) FLACKS, FRIEDLAND

Prerequisite: Sociology 131 or consent of instructor. Course may be repeated once providing topics are different.

Study of the historical formation, organizational structure, and political processes of the modern state in the United States and Western Europe. The state will be studied as a representative institution, a mode of domination, and an institutional locus of societal contradictions using contemporary and historical empirical studies.

132. Public Opinion

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

Conceptual analysis of public opinion in relation to notions of democratic behavior and social change. Problems of measurement, influence of the mass media, reference groups, and interpersonal relations. Effect upon contemporary American society.

133. Sociology of Mass Communications

(4) MOLOTCH

Prerequisite: upper-division standing or one prior course in sociology.

Organization and processes of mass communications in American society and developing nations; effects of the mass media on social consensus, conflict, and innovation.

134. Social Movements

(4) FLACKS

Prerequisite: upper-division standing or one prior course in sociology.

Causes, dynamics and consequences of protest. American social movements, particularly labor, civil rights, student and women's movements, are studied as cases in movement development. Documentary and fiction films help illustratie analytic themes and historical moments.

134R. The Sociology of Revolutions

(4) FORAN

Prerequisite: upper-division standing or one prior course in sociology.

Theories of social revolution will be presented; the causes, types, nature, processes, and outcomes of revolutions will be explored and assessed, with case studies drawn from among the French, Russian, Chinese, Mexican, Cuban, Iranian, and Nicaraguan revolutions, among others.

136. The Analysis of Conversational Interaction

(4) ZIMMERMAN, LERNER

Prerequisite: upper-division standing or consent of instructor.

The analysis of naturally occurring conversations with an emphasis on understanding conversation as a form of social interaction. Focuses on systems that organize talk-in-interaction (turn taking, action sequencing, and repair of conversational troubles) and methods for analyzing single conversations.

136I. The Analysis of Interaction in Institutional Setting

(4) ZIMMERMAN

Prerequisites: one prior course in sociology. Upper-division standing.

The course examines how interaction in institutional settings differs from everyday interaction, and how these differences contribute to the constitution of formal settings of social action.

136Q. Special Studies in Conversational Interaction

(4) ZIMMERMAN, LERNER

Prerequisites: Sociology 136 and consent of instructor.

Individual and group projects in the analysis of conversational interaction stressing the understanding of this approach through actual research.

136V. Video Study of Social Interaction

(4) LERNER

Prerequisites: one prior course in sociology. Upper-division standing.

This course examines the visible aspects of social interaction: the organization of gesture, gaze, and body movement in the production of social actions through a survey of relevant research and through direct inspection of videotapes of ordinary social occasions.

137E. Sociology of the Black Experience

(4) STAFF

Prerequisite: upper-division standing and one prior course in sociology or Black Studies.

This course will give a sociological overview of the experiences of Blacks in the United States from slavery to the present. Sociological analysis of the changing historical significance of Black poverty, the Black family, and the Black worker in the United States will be presented.

138. The Sociology of Conflict

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

Conflict as a basic and continuous social process; relationships to social change and social organization; modes of resolving differences.

138E-F. Humanistic Sociology of Conflict

(4) FRIEDELL

Prerequisites: consent of instructor, upper-division standing.

This two-quarter sequence examines humanistic or idealistic theories and methods for resolving conflict on both personal and global levels. Representative topics include empowerment, negotiation, conflict among intimates, oppressive systems, "soul-force," liberation theology, conscientization, participatory development.

139A-B. The Sociology of Black-White Relations

(4-4) FISHER

Prerequisites: Sociology 1 or equivalent; students taking 139B must have taken 139A; or consent of instructor.

Selected problems of racism will be the focus of both theoretical (A) and empirical (B) study. This course will be an integral part of re-assessment, reevaluation, and change in patterns of racist super-subordination.

140. Aging in American Society

(4) BIELBY D.

Prerequisites: upper-division standing and a socialization or developmental psychology course or personal experience working with the elderly.

This course will survey and analyze aspects of growing old in American society. Attention is focused on the meaning of aging to the individual as topics including physical and mental health, retirement, leisure, sexuality, death, and dying are discussed.

141. Interpersonal Relations

(4) STAFF

Prerequisite: Sociology 2 or Psychology 102, their equivalent, or consent of instructor.

The social psychology of person-to-person interaction: perceptions, norms, and sentiments that develop in face-to-face contact.

141F. Social Psychology of Interpersonal Experience

(4) FRIEDELL

Prerequisite: Sociology 2 or Psychology 102 or Sociology 141 or consent of instructor.

In a small group setting, students will explore person-to-person interaction; the norms and sentiments which influence face-to-face experience; and development of intimate relationships.

141S. Interpersonal Processes

(4) SCHULMAN

Prerequisite: Sociology 2 or Psychology 102 or Sociology 141 or their equivalent or consent of instructor.

Through small group activity, students will consider processes of person perception, impression management, interpersonal communication, formation of interpersonal relationships, and formation of affect (liking/disliking). Students will analyze videotapes, participate in group analysis, and read empirical and theoretical literature in these areas.

142. Socialization, Self-Actualization, and Creativity

(4) BALDWIN

Prerequisite: upper-division standing or one prior course in sociology.

The influence of people's social environment on their developing behavior. Attention devoted to exploration, play, creativity, self-actualization, showing how certain social environments are or are not conducive to full human development.

143. Small Groups

(4) SCHULMAN

Prerequisite: Sociology 2, Psychology 1 or 101, Sociology 141 or Psychology 102; or consent of instructor.

The structure and dynamics of small groups, including the analysis of roles, interpersonal relations, and group characteristics; inter-group relations; field and laboratory research on small groups.

144. The Chicano Community

(4) SEGURA

Prerequisites: upper-division standing, or Chicano Studies 1A or 1B, or 1C, or a prior course in sociology. Same course as Chicano Studies 144.

Origins of the Chicano in rural Mexico; context of contact; patterns of settlement in the United States; the Chicano community; social culture, and social change; acculturation and generational patterns; community leadership and change.

145. Adult Socialization

(4) BIELBY D.

Prerequisite: Sociology 142.

The social development of individuals after the early childhood years. Data and theories will be presented relating to the development of the more complex social behaviors, cognitions, plans, etc., typical of socialized adults.

146. Special Topics in Sociology

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology. No more than 8 units of major credit will be given, but course may be repeated up to a 16 unit maximum.

Lectures in special areas of interest in contemporary sociology. Specific course titles to be announced by the department each quarter.

147. Current Issues in Social Psychology

(4) STAFF

Prerequisites: Sociology 2 and 103, their equivalents, or consent of instructor. Course may be repeated once if there is a different instructor.

An advanced course dealing with topics selected by the instructor. Emphasis is on areas of research in social psychology, such as the decision-making process, role analysis, and other current topics.

147M. The Social Psychology of Affliction

(4) FRIEDELL

Prerequisite: consent of instructor.

Cognitive and emotional responses to distress and affliction; roles of victims and witnesses; patterns of attribution of responsibility; evaluation of effectiveness of individual and collective action.

148A. Social Networks

(4) STRAITS

Prerequisites: Sociology 1, 2, 3, and 4; their equivalents; or consent of instructor.

Social structure as derived from patterns of micro-relations (networks of people) and macro-relations (networks of organizations, interest groups, nations, or other collectivities); consequences of network relationships for social behavior and the distribution of resources, information, power, beliefs, and social support.

148B. Advanced Topics in Social Networks

(4) STRAITS

Prerequisites: Sociology 148A or consent of instructor.

Discussion of current substantive and methodological issues in social network analysis. Course format (seminar or lecture) and topics vary from year to year.

149. Introduction to Ethnomethodology

(4) WILSON

Prerequisites: Sociology 136 and upper-division standing.

Fundamental processes of social interaction and social organization. Accountability of action and the fundamental mechanisms of interaction; co-implication of institutional context and individual agency in interaction; reproduction of individual identities and social structure as trans-situational realities.

150. Principles of Social Welfare
(4) FISHER

Prerequisite: upper-division standing or one prior course in sociology.

Basic concepts and methods of social work; the application of casework techniques; structure and function of public welfare agencies; social group work and community organizations.

151. Images of Gender in Film and Television
(4) BIELBY W., BIELBY D.

Prerequisites: upper-division standing and one prior course in sociology.

This course examines how structural, cultural, and historical factors shape images of gender in film and television.

152A. Sociology of Human Sexuality
(4) BALDWIN, BALDWIN

Prerequisite: upper-division standing or one prior course in sociology.

Human sexuality as a social phenomenon; the influence of anatomy, physiology, and psychosexual development on sexual expression; masculinity and femininity in their social expression; theories of sexuality related to deviance.

152B. Topics in Human Sexuality
(4) BALDWIN, BALDWIN

Prerequisites: Sociology 152A and consent of instructor.

The course will present additional information about topics covered only briefly in Sociology 152A but of interest to the serious student.

152H. Advanced Study in the Sociology of Human Sexuality, Honors Seminar
(4) BALDWIN, BALDWIN

Prerequisites: completion of Sociology 152A with a grade of A and consent of instructor. Students must meet departmental honors criteria.

An honors seminar for advanced study in the sociology of human sexuality. Each student will research one to four topics in the field of sexuality, and will present four 40-minute summaries of that research.

153. Women and Work
(4) FENSTERMAKER

Prerequisites: upper-division status; any upper-division sociology course.

The course will begin with readings and discussion of the sociological features of work in society. The role of women in the labor market will be explored, as well as their lives as unpaid workers in their own homes. Finally, more global issues of sexual inequality and social change will be discussed.

153S. Advanced Undergraduate Seminar on Women and Work
(4) FENSTERMAKER

Prerequisites: grade of A- or better in Sociology 153; consent of instructor.

The seminar will focus on women's labor force participation, domestic labor, and the structural connections between the two. Through presentations of original research papers, students will explore the social structural features of gender inequality and implications for social change.

154A. Sociology of the Family
(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

A lecture course on family and household organization, past and present. Attention to contemporary issues in the American family focusing on gender, class, and cultural variation.

154B. Special Topics in the Sociology of the Family
(4) STAFF

Prerequisite: Sociology 154A or consent of the instructor. Course may be repeated once providing topics are different.

A lecture course providing focused exposure to research topics in the sociology of the family. Topics may include violence within families, cross-cultural variations in family structure, family and the state, the family and economic structure, gender roles within families.

154F. The Chicano Family
(4) SEGURA

Prerequisite: upper-division standing or one prior course in sociology or Chicano Studies 1A-B-C or consent of instructor. Same course as Chicano Studies 154F.

This course provides an overview of historical and contemporary research on Chicano families in the United States. Changing viewpoints on the character of Chicano families and their implications with respect to policy issues are examined.

155A. Women in American Society
(4) FENSTERMAKER, SCHNEIDER

Prerequisite: upper-division standing.

The roles and life styles of women in various American subcultures and the ideologies developing around them.

155B. Sociological Perspectives on Women
(4) FENSTERMAKER, SCHNEIDER

Prerequisite: Sociology 155A or consent of instructor. Course may be repeated once providing topics are different.

Advanced study in the sociology of women. Course format (seminar or lecture) and topics vary from year to year. Topics may include: the analysis of the status of women in the labor force, women's class position, theoretical and practical aspects of patriarchy.

155M. Sociology of the Women's Movement
(4) SCHNEIDER

Prerequisite: upper-division standing.

This course examines the development and transformation of the contemporary women's movement. Consideration is given to ideological and organizational differences, internal politics, and the impact of the movement on individuals, policies, and institutions.

155R. Chicana Research Issues
(4) SEGURA

Prerequisites: upper-division standing or one prior course in sociology or Chicano Studies 1A-B-C or consent of instructor. Same course as Chicano Studies 155R.

This course is designed to enable students to develop and implement a research project that explores in depth one or more facets of the Chicana experience. Students will select and gather information in one area of interest: family, health, education, or employment.

155W. La Chicana: Mexican Women in the U.S.
(4) SEGURA

Prerequisite: upper-division standing or one prior course in sociology or Chicano Studies 1A-B-C or consent of instructor. Same course as Chicano Studies 155W.

Examines existing research on native-born and immigrant Mexican women in the United States with emphasis on family, education, employment, and politics. Analysis of the Chicana experience organized by considering how interplay between class, race, and gender affects access to opportunity and equality.

156. Current Issues in Population
(4) STRAITS

Prerequisite: upper-division standing or one prior course in sociology. Content varies from year to year; course may be repeated for credit to a maximum of 12 units.

Lectures and readings on several current population issues, such as income, aspirations, and fertility; migration of the poor; consequences of childbearing and child-spacing patterns; inequalities of death and illness; overpopulation; teenage pregnancy; and immigration policies.

157. Radicalism in American Life
(4) FLACKS

Prerequisites: Sociology 131, 134.

An analysis of the social sources and impacts of radical ideologies and organizations on American life and politics in the twentieth century.

158. Personal Identity
(4) STAFF

Prerequisites: Sociology 1 and 2; upper-division standing or consent of instructor.

A sociological approach to motivation; the formation of self-concepts; self-regulation as a social process.

159LG. Sociology of Lesbian and Gay Communities
(4) SCHNEIDER

Prerequisites: upper-division standing. Not open to students who have received credit for Sociology 146/ Sociology of Lesbian/Gay Communities.

Origins and transformation of lesbian and gay communities and social movements, with special attention to ideological development, major social problems, cultural production, race, ethnic and gender differences, organizational formation and political conflict.

159S. Sociology and Sexual Politics
(4) STAFF

Prerequisites: upper-division standing or one prior course in sociology. Not open to students who have received credit for Sociology 176S.

Recent social constructionistic approaches to the study of sexuality through the work of gay and lesbian scholars, social historians, feminists, and discourse theorists. Emphasis on recent changes in sexuality, sexual suffering, and sexual politics. Topics vary with instructor.

160. Sociology of Work
(4) BIELBY W.

Prerequisite: upper-division standing or one prior course in sociology.

Management and worker organizations, formal and informal. Accommodation among these organizations, and interaction between them and the community.

164. Sociology of Education
(4) STAFF

Prerequisite: upper-division standing or a prior course in sociology.

Changing character of education in complex societies; its relation to political, economic, and technological institutions; and its effect on individual and community behavior and development.

166. Economy and Society
(4) BIELBY W., FRIEDLAND

Prerequisite: upper-division standing. Course may be repeated once with different instructor and course content.

This course will consider the relationship between economy and society. The course will analyze non-market determinants of market phenomena, as well as the ways in which markets impinge upon non-market institutions, whether state, family, or community. The topics included in the course will vary.

167. The Structure and Dynamics of Organizations
(4) BIELBY W., FRIEDLAND, SUTTON

Prerequisite: upper-division standing or a prior course in sociology.

Institutional analysis of administrative structures and voluntary associations: informal organization, ideology, bureaucracy, decision making, and morale.

168E. Ethical Capitalism
(4) BALDWIN J.D.

Prerequisites: Sociology 1, upper-division standing.

Is capitalism evolving to be more or less ethical? How are current conditions in the global system affecting the evolution of capitalism in its various manifestations? These and many more related questions will be explored, using current data from many nations.

169. Human Dignity
(4) FRIEDELL

Prerequisites: upper-division standing or one prior course in sociology and consent of instructor.

The concept of human dignity; human dignity and theories of human nature; case, laboratory, and field studies; applications to self-esteem and human rights.

170. Sociology of Deviant Behavior

(4) SUTTON

Prerequisite: upper-division standing or a prior course in sociology.

Introduction to the sociological study of conformity and deviance, with emphasis on processes of social control.

171. Sociology of Mental Illness

(4) STAFF

Prerequisite: upper-division standing or a prior course in sociology.

Sociological analysis of mental disorder: the cultural context of health and illness, social processes in the definition, recognition, and treatment of mental illness.

171S. Research Seminar in the Social Psychology of Mental Illness

(4) STAFF

Prerequisite: Sociology 171.

Introduction to research on emotion response cycle, using videotapes. Scanning, rating, and reliability techniques. Training in use of the Facial Action Coding System (FACS). Data collection for research paper.

172. Sociology of Crime and Delinquency

(4) STAFF

Prerequisite: upper-division standing or one prior course in sociology.

Theories of the genesis of delinquency and crime; factors in the organization of delinquent and criminal behavior from the points of view of the person and group; delinquent and criminal behavior systems.

173. Sociology of Law

(4) SUTTON

Prerequisite: upper-division standing or one prior course in sociology.

Study of the social and cultural factors underlying the development, maintenance, and change of legal structures and processes, and analysis of theories of jurisprudence.

174. Criminal Justice and the Community

(4) STAFF

Prerequisite: Sociology 1.

Sociological analysis of law enforcement systems and court systems; police discretion, differential implementation of the criminal law; negotiation in criminal justice decisions.

175. Sociology of Punishments and Corrections

(4) SUTTON

Prerequisite: upper-division standing or one prior course in sociology.

Theories of punishment and treatment used in dealing with convicts and juvenile delinquents; analysis of the systems of behavior modification used by probation, prison, and parole workers.

176A. Sociology of AIDS

(4) SCHNEIDER

Prerequisite: upper-division standing or one prior course in sociology.

Sociological analysis of AIDS: the social history of disease; social construction of AIDS as a social problem; stigma, illnesses, and sexuality; impact of AIDS on selected groups and communities; legal, medical, and political institutions' response to AIDS.

176D. Sociology of Drug Use

(4) STAFF

Prerequisite: Sociology 1.

Deals with such topics as the demographic patterns of drug usage, socialization into and out of drug subcultures, criminalization and decriminalization of various drugs, and drugs as they pertain to women, youth, and minorities. Cross-cultural approaches to drug use and treatment modes. (Generally offered only in summer session)

177. Social Problems

(4) STAFF

Prerequisites: upper-division standing or consent of instructor.

We will discuss sociological studies and theoretical propositions pertinent to the analysis of such problems as substance abuse, crime, poverty and homelessness, illiteracy, abortion, sexism, bigotry, pollution, population, and war. Politics and strategies proposed for their amelioration will be discussed.

178. Media Images of the United States Legal System

(4) MCNEELY

Prerequisite: upper-division standing or one prior course in sociology.

A seminar investigating the relationship between law and society in the United States by examining media portrayals and public perceptions of crime and the criminal justice system, using a variety of theoretical perspectives and empirical studies.

183A-B. Socialization and Personal Change

(4-4) FISHER

Prerequisites: Sociology 1 and some acquaintance with group process theory and/or practice.

This course deals with the effects of socialization on values and behavior with special reference to problems of race, gender, and social class. The course is designed to enable students to understand and reassess their values and practices in terms of theories of socialization and group process.

A: The focus will be on mastery of theoretical material on socialization and a format for further work. Selected literatures on socialization and its impact on the person will be stressed.

B: The emphasis this quarter will be on identification of distinctive elements in the socialization history of each class member.

184. Sociology of the New Therapies

(4) FISHER

Prerequisite: upper-division standing or one prior course in sociology.

Provides a description of several new approaches to mental health which includes their history, dynamics, and effectiveness. Will include an analysis of the social and intellectual sources of these new approaches.

185A. Development of Sociological Thought

(4) APPELBAUM, WILSON

Prerequisite: upper-division standing or a prior course in sociology. Not open for credit to students who have completed Sociology 185.

The outstanding European and American figures and idea systems in the development of sociological thought are discussed.

185C. Cultural Theory

(4) FRIEDLAND

Prerequisite: upper-division standing.

An introduction to functionalist, semiotic, dramaturgical, Weberian, Durkheimian, Marxian and post-structuralist approaches to cultural analysis.

185G. Theories of Gender and Inequality

(4) GORDON

Prerequisites: upper-division standing and Sociology 1 and 2.

Varying theoretical perspectives on causes of gender inequality, maintenance and reproduction of gender systems, social consequences of gender stratification, and dynamics of change in systems of inequality.

185J. Power in Social Institutions

(4) MOHR

Prerequisite: upper-division standing.

Explores both classical and contemporary theories about social power. Applies these ideas to two or three special topics each quarter such as gender, organizations, work, and the state. Emphasis is on explaining historical foundations of institutional arrangements.

185M. Alternative Inquiry

(4) FRIEDELL

Prerequisites: upper-division standing and consent of instructor.

Examination of recent radical critiques of and suggestions for the intellectual enterprise. Study of the challenges of intuitive and subjective methods to social science traditions. Critique of sociology in the light of such challenges.

185P. G.H. Mead's Theory of Pragmatism

(4) BALDWIN J.D.

Prerequisite: consent of instructor.

George Herbert Mead's theory of pragmatism provides a major foundation for sociological theory. It is also a very useful theory for contemporary social life. It integrates personal and interpersonal issues with larger macro-social concerns to create a unified theory.

185S. Special Topics in Social Theory

(4) STAFF

Prerequisite: upper-division standing or consent of instructor.

This course will explore various theorists, schools of thought, particular theories, and special problems and issues in social theory. Topics and readings will vary.

190A. Group Studies in Organizational Settings

(1-4) STAFF

Prerequisites: upper-division standing in a social or behavioral science. Overall grade-point average of 3.0; consent of instructor; student proposal required.

Systematic exploration of the problems of institutional and community development, the dilemmas of social service institutions and helping occupations, the potentialities and constraints on the creation of social and cultural alternatives.

190CH. Capitol Hill Internship

(2-12) BIELBY W., FLACKS, FRIEDLAND

Prerequisites: upper-division social science majors. Political science majors may not enroll in Sociology 190CH. Consent of instructor. 3.0 grade-point average required. May be repeated to a maximum of 12 units, but only 8 units combined may be applied toward credit in the major.

For students involved in government related internships and living off campus for one or more quarters. Internships must include original research projects and other active learning experiences. Student proposal required.

191A. Applying Sociology to Internships in Organizational Settings.

(4) BIELBY D.

Prerequisites: Sociology majors only; upper-division standing; Sociology 1, 2, and 3 completed; 3.0 grade-point average; consent of instructor and department chair; placement in an internship through the applied learning program. A maximum of 6 units of Sociology 191A-B-E-I combined may be applied toward degree requirements, and only 4 units of these may be applied toward the sociology major.

Sociological perspectives on internships in organizations. Students will conduct observations and write a research term paper. Readings relevant to the internship experience are assigned.

191B. Internship in Organizational Settings

(2) STAFF

Prerequisites: sociology majors only; upper-division standing; Sociology 1, 2, 3 completed; 3.0 grade-point average, consent of instructor and department chair; placement in an internship through the applied learning program; students must have completed 191A prior to enrolling in 191B. A maximum of 6 units of Sociology 191A-B-E-I combined may be applied towards degree requirements, and only 4 units of these may be applied towards the sociology major.

Continuation of an internship in an organization under the supervision of a faculty member.

191EA. Field Placement in the Helping Professions: Relationship

(1) STAFF

Prerequisites: completion of one course from the Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count toward sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EB. Field Placement in the Helping Professions: S.T.A.R.

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers. (S.T.A.R. = Students Teaching Alcohol/other-drugs Responsibility)

191EC. Field Placement in the Helping Professions: Nutrition

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191ED. Field Placement in the Helping Professions: Stress/Laughter

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EE. Field Placement in the Helping Professions: Health Advisors

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EF. Field Placement in the Helping Professions: Sexuality/AIDS

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EG. Field Placement in the Helping Professions: Health

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EH. Field Placement in the Helping Professions: Eating Disorders

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EI. Field Placement in the Helping Professions: Leadership

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191EZ. Field Placement in the Helping Professions: Peer Health Education

(1) STAFF

Prerequisites: completion of one course from Sociology 91A-Z series. Consent of instructor and department chair. A maximum of 6 units of Sociology 191A-Z combined may be applied toward degree requirements, and 4 of which will count towards the sociology major.

This course allows students who have completed one course from the Sociology 91A-Z series to apply for field placement. Acceptance into this program allows students the opportunity to facilitate discussion groups about health related topics for their peers.

191I. Instructional Laboratory in Sociology

(1-4) STAFF

Prerequisites: consent of instructor; upper-division standing. A maximum of six units of Sociology 191A-B-E-I combined may be applied toward degree requirements, and only four units of these may be applied toward the sociology major.

Under the direction of the instructor, students will lead group discussion sections in designated courses. Weekly class meetings attendance at the primary course lecture, and participation in discussion sections is required.

192. Projects in Computer Science

(4) STAFF

Prerequisite: consent of instructor. May be repeated for credit with consent of instructor but with the limit of 12 units total for the three courses Mathematics 192, ECE 192, and Sociology 192 combined. Only 4 units of Sociology 192 may be applied to the upper-division sociology major.

Projects in computer science for advanced undergraduate students.

193. Senior Seminar

(4) STAFF

Prerequisites: consent of instructor required. Open only to sociology majors who have completed 20 or more units of upper-division coursework in the major. May be repeated once for credit if topic and instructor are different.

A seminar intended to represent a culminating experience for majors. The focus will be on a topic or theme that permits intensive analysis of methods and problems of social inquiry. Topics will vary with the instructor.

194. Group Studies for Advanced Students

(2-S) STAFF

Prerequisite: consent of instructor. This course may be taken a total of three times.

Intensive study and research.

195H. Sociology Honors Colloquium

(2) STAFF

Prerequisites: Must meet departmental honors criteria or consent of instructor.

In conjunction with the sociology colloquium series, this course will address issues and topics presented by the speakers. Participating students will be expected to read assigned materials and participate in discussions.

196H-HT. Honors Research Practicum in Sociology

(4-4) STAFF

Prerequisite: Sociology 1, 2, 3 completed; cumulative and sociology grade-point average of 3.5; 105 units completed; consent of instructor and department chair; writing sample submitted.

A two-quarter sequence leading to the preparation and presentation of the honors thesis. During the first quarter, students will develop research topics and appropriate methodologies. General issues of sociological research will be raised and discussed, including the relationship between theory and method. During the second quarter, students will complete their research, write their theses, and present their results orally to the seminar.

197H. Honors Sociology

(4) STAFF

Prerequisites: students must have completed Sociology 1, 2, 3, and one upper-division sociology course and meet sociology honors criteria or by consent of instructor. Course may be repeated to a maximum of 8 units.

An undergraduate seminar for honors students. Topics will vary by instructor.

198. Readings in Sociology

(1-S) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in sociology. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students may apply a maximum of 12 units of 198/199 courses combined to the sociology major.

Readings in sociology under the guidance of a faculty member in the department. Students wishing to enroll should prepare a short plan of study.

198H. Honors Reading Projects in Sociology

(1-S) STAFF

Prerequisites: Sociology 1; students must (1) have attained upper-division standing; (2) have a minimum 3.5 grade-point average; (3) have completed at least two upper-division courses in sociology and must meet departmental honors criteria or consent of instructor. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students may apply a total of 12 units of 198, 198H, and 199 combined to the sociology major.

Designed for honors reading projects under the guidance of a faculty member. Students wishing to enroll should prepare a short plan of study.

199. Independent Studies in Sociology

(1-S) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in sociology. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students may apply a maximum of 12 units of 198/199 courses combined to the sociology major.

Independent studies in sociology under the guidance of a faculty member in the department. Students wishing to enroll should prepare a short plan of study.

199RA. Independent Research Assistance in Sociology

(1-S) STAFF

Prerequisites: Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper-division courses in sociology; 4) have consent of instructor and department.

Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses. Students may apply a maximum of 12 units of 198/198H/199/199RA courses combined to the sociology major.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

200A-B-C. Sociological Theory

(6-6-4) APPELBAUM, WILSON

Central currents of sociological theory, beginning with Marx, Durkheim, and Weber, and continuing into contemporary theoretical issues.

201A-B-C. Advanced Research Methods

(4-4-4) SCHULMAN

Prerequisites: Sociology 103 and 104A-B or equivalent.

Sociology 201A provides advanced training in survey techniques. Sociology 201B is concerned with experimental methods; and Sociology 201C is devoted to methods for collecting and analyzing data on naturally occurring behavior.

202. Issues in Sociological Inquiry

(4) STAFF

Prerequisites: Sociology 103 and 104 or consent of instructor.

Currently relevant issues which fall somewhere between those systematically treated in the philosophy of science and those systematically treated in courses dealing with problems of theory construction and research design.

203A-B-C. Theory and Method in Sociology

(4-4-4) STAFF

Prerequisite: Sociology 103 or consent of instructor.

A three-quarter seminar in which the relationships between sociology and other social sciences are considered in the context of particular substantive issues: crime, marriage and divorces, unemployment, underdevelopment, and the like. A paper will be required integrating the issues discussed.

204A-B-C. Topics in Advanced Data Analysis

(4-4-4) BIELBY W., WONG

Prerequisites: Sociology 103 and 104 or equivalent. Sociology 204C may be repeated twice providing the topics are different.

This seminar will deal with topics of current interest in the area of data analysis and will give participants "hands-on" experience in using the new techniques with real data. Participants will analyze data of their choosing and will write up the results in journal article form. Technical assistance and some data archives will be provided by the sociology computing facility.

205A. Data Analysis in Sociology

(4) BIELBY W., WILSON, WONG

Prerequisites: Political Science 205 or PSTAT 5A-Z or equivalent. Sociology 205A is a prerequisite to Sociology 205B.

Basic techniques for the analysis of sociological data using linear models. Emphasis is on sociological application; the course will cover the use of bivariate, multi-variate, and multiple-equation models in sociological research.

205B. Data Analysis in Sociology

(4) BIELBY,W., WILSON, WONG

Prerequisite: Political Science 205 or PSTAT 5A-Z or equivalent. Sociology 205A is a prerequisite to 205B.

Basic techniques for the analysis of sociological data using linear models. Emphasis is on sociological application; the course will cover the use of bivariate, multi-variate, and multiple-equation models in sociological research.

205AL-BL. Laboratory for Data Analysis in Sociology

(2-2) BIELBY W., WILSON, WONG

Prerequisite: concurrent enrollment in Sociology 205A-B.

Laboratory in quantitative data analysis using computer programs to estimate and study properties of sociological applications of statistical properties.

206. Intermediate Methods of Sociological Research

(4) STRAITS

Prerequisite: Sociology 3 or equivalent.

Review of fundamentals of designing, conducting, and analyzing social surveys. Problems of design and interpretation in experimental and observational studies will be discussed.

207A-B-C. Sociological Theory

(4-4-4) WILSON

Material covered equivalent to that offered in Sociology 200A-B.

Fundamental issues in contemporary social theory from their emergence in the Enlightenment, through the writings of Marx, Durkheim, and Weber, to present day controversies.

208. Formal Analysis in Sociology

(4) STAFF

Prerequisite: Philosophy 31 or consent of instructor.

Clarification of existing sociological theories by resolution into explicit form. Special attention to axiomatic method.

210. Seminar in Ethnomethodology

(4) ZIMMERMAN

The study of the properties making up every day practical reasoning.

211A-B-C. Field Research in Sociology

(4-4-4) STAFF

The organization and execution of research in natural settings; analysis of field data and documentary evidence; problems of comparative history and analytic induction.

212A-B. Seminar in Comparative-Historical Sociology

(4-4) FORAN

(A) Theoretical and methodological bases of comparative-historical sociology. Use of theories and concepts, logic of comparison and contrast, types of evidence, and other issues raised by classic works and methodological writings. (B) Students pursue research projects applying historical and/or comparative methods.

212F. Feminist Research Methodologies

(4) FENSTERMAKER

Fundamental issues in the philosophy, process, and tools of feminist research inquiries.

212P. Gender Research Practicum

(4) FENSTERMAKER

A research practicum in which students apply the fundamentals of feminist research methodologies to current projects.

218C. Sociology of Culture

(4) MCNEELY, SUTTON

Seminar on the sociological study of culture, examining theoretical perspectives, definitional and analytical problems, production of culture, and cultural effects.

218P. Seminar on Popular Culture

(4) BIELBY, BIELBY

Prerequisite: course on sociology of culture.

This seminar focuses on theories, research, and debates regarding the sociological analysis of popular culture.

220A-B-C. Origins and Development of Critical Sociology

(4-4-4) FLACKS, APPELBAUM

This three-quarter sequence will introduce graduate students to critical sociology. The first quarter will focus on Marx's early works and philosophic issues; the second will focus on Marx's political sociology and theory of the state; and the third quarter will cover political economy and Neo-Marxist theory generally.

222. Social Stratification

(4) STAFF

Advanced study of the nature of social classes and class relations, emphasizing contemporary studies of American society.

224. Seminar in Collective Behavior and Social Movement

(4) STAFF

Advanced study of theory and research on protest, collective mobilization, collective behavior, grass roots activism, and related topics.

226A-B. Human Ecology

(4-4) FRIEDLAND, MOLOTCH

Prerequisite: graduate standing or consent of instructor.

This two-quarter sequence is designed to provide a comprehensive examination of issues relating to urban settlement as a locus of production and consumption patterns. Approaches include the classic formulations of urban ecology and locational theory and more contemporary derivations as currently practiced in urban geography, economics, and sociology. The first quarter is designed primarily for explication and review. The second quarter is organized around presentations by students and faculty on specific topics which serve as the basis of term papers, dissertation projects, and ongoing faculty research.

228A-B. Selected Problems in American Racism

(4-4) FISHER

A: (Racism in the United States as a social institution) Primary emphasis will be given to theoretical treatments of racism, and to locations within social structure wherein theoretical claims can be assessed. The relevance of theoretical claims, and analysis derived therefrom, for action and for policy imperatives, will be emphasized.

B: (Field explorations and research) It is expected that each student will come to the seminar with an area of interest in the study of racism formulated and will evolve a theoretical viewpoint within which to articulate this interest. The major work of the seminar will be the development and implementation of a theoretically relevant research design and a write-up which includes presentation, analysis, and criticism of results.

229. Race (Ethnicity) and the Political Process: A Practicum

(4) FISHER

Sociological aspects of the political process and political participation by racial (ethnic) minorities in the United States. The degree and kind of involvement in the political process, as well as the consequences of this, will be explored. Emphasis will be given to field experience and its analytic meaning.

230. Seminar in Social Change

(4) STAFF

Recent theories of sociocultural dynamics and change, with special emphasis on modern systems theory and cybernetic principles as they apply to social change.

231. Seminar in Political Sociology

(4) FLACKS, FRIEDLAND

Study of the social and cultural bases of the political process.

232. Public Opinion and Mass Communication

(4) STAFF

Selected topics in sociological analysis of public opinion and mass communication.

239. Sociology of Law

(4) STAFF

Selected topics in the sociological analysis of legal structures and processes, and of theories of jurisprudence.

240. G.H. Mead's Pragmatism

(4) BALDWIN

Analysis of George Herbert Mead's theories of pragmatism and their application to micro and macro sociological issues, showing how Mead created a unified sociological theory.

241. Seminar in Interpersonal Relations

(4) STAFF

Advanced study of the social psychology of person-to-person interaction: perceptions, norms, and sentiments that develop in face-to-face contact.

242. Seminar in Language and Social Interaction

(4) ZIMMERMAN, LERNER

Prerequisite: Sociology 136 or consent of instructor.

The seminar will explore selected topics in the analysis of naturally occurring conversation with the emphasis on conversational exchange as a form of social interaction.

243. Practicum in Social Psychology
(4) STAFF

Advanced development of topics in social psychology. Consideration of theory and concepts as well as the design and execution of empirical research will be included.

244. Seminar in Socialization
(4) BALDWIN

Selected topics in social development and social learning theory will be discussed.

245A-B-C. Seminar on Gender
(4) STAFF

Current research, theories and concepts of gender will be considered. Topics vary from quarter to quarter and by instructor.

246. Seminar on the Life Course
(4) BIELBY

Examines theoretical and methodological approaches to the study of the life course. The dynamic relation between changing social structures, institutions, and life patterns is emphasized.

248A-B. Social Networks
(4-4) FRIEDKIN, STRAITS

A: Social network theory and methodology. Students are required to attend lectures in Sociology 148A and participate in the ongoing UCSB social networks seminar. B: Advanced topics in social networks. Students are required to attend lectures in Sociology 148B and prepare a research paper.

254. The Family
(4) SCHNEIDER, SEGURA

Selected topics in sociological analysis of family and household arrangements. Particular attention will be paid to the implications of change for systems of gender and race inequality.

255. Seminar in Feminist Studies
(4) FENSTERMAKER, SCHNEIDER, SEGURA

This course will analyze the social, cultural, and economic roots of women's oppression. Particular attention will be paid to the variety of forms that inequality takes, and the diversity of women's experiences which results.

255R. Seminar on Gender, Race, and Class
(4) STAFF

An examination of the intersection of race, class, and gender in empirical and theoretical sociological work.

256A-B. Seminar in Feminist Theory
(4) FENSTERMAKER, GORDON, SCHNEIDER

The seminar examines the development of feminist theory. The first quarter offers the feminist critique of the social sciences. The second quarter will examine major texts in contemporary feminist theory.

256S. Seminar in Feminist Analysis of Sexuality
(4) SCHNEIDER

Major debates in the historical and sociological research and theory on sexual identity, sexual behavior, and sexual community.

258. Seminar on Social Control
(4) STAFF

An introduction to the social psychology of John Dewey and George H. Mead.

261A-B-C. Comparative Institutions
(4-4-4) BIELBY W., MCNEELY, MOHR, SUTTON

An advanced seminar focusing on research development in broad area of comparative institutions within related political, social, economic, and cultural frameworks.

263A-B. Seminar on Religion and Societal Change
(4-4) FRIEDLAND

This course is the same as Religious Studies 263A-B. Sociology 263B may be repeated for credit.

This seminar examines the role of religion in societal change. The first quarter will discuss major theories from Durkheim and Weber to Rokkan and Foucault. The second quarter will consider specific cases which will vary from year to year.

264. Education and Society
(4) MCNEELY

A seminar examining the major theoretical perspectives and a wide variety of empirical studies on the relationship between education and society.

265. The Sociology of Development
(4) FORAN

The seminar will explore a range of theories, issues, and case studies in the sociology of development and social change, primarily in the Third World. Topics and cases covered will vary according to students' and instructor's interests.

265LA. Development and Social Change in Latin America
(4) FORAN

The seminar will explore theories, issues, and case studies in the sociology of development and social change in Latin America. Topics and cases covered will vary according to students' and instructor's interests.

266. Economy and Society
(4) BIELBY W., FRIEDLAND

Course may be repeated with different instructors and course content.

This course will consider the relationship between economy and society. Students will analyze non-market determinants of market phenomena, as well as the ways in which markets impinge upon non-market institutions. Topics included in the course will vary.

266G. Globalization and the Nation-State
(4) MCNEELY

A seminar examining the political, economic, and social organization of the international system, and the role and meaning of the modern nation-state within that system.

267. Seminar in Complex Organizations
(4) STAFF

Prerequisite: Sociology 167 or equivalent or consent of instructor.

This seminar will examine recent developments in research and theory on organizations.

270. Deviant Behavior
(4) STAFF

An introduction to research on social interaction, using the controversy over the labeling theory of mental illness as an example. Development of a theory of social action, and a methodology appropriate to it.

271. Sociological Analysis of the Therapeutic Process
(4) FISHER

Prerequisites: some acquaintance with the writings and life of Sigmund Freud and/or one or more of the newer "therapies," plus some work in sociology.

Exploration of some social and philosophical issues entailed in the idea of treatment or therapy, and a consequent recasting of some traditional sociological ideas such as anomie, alienation, etc. Examination of the meanings of the therapeutic process as a social ethic.

272. Seminar in Criminology
(4) STAFF

Selected topics in the sociology of crime, delinquency, criminal justice, and corrections.

285A-B. Central Themes in Classical American Sociology
(4-4) MOLOTCH

The course will focus upon central issues and themes in traditional American sociology. Areas to be explored are: demography, human ecology, and urban sociology, complex organizations, sociology of law and criminology, deviance, sociology of religion, marriage and family, collective behavior, political sociology and social stratification, and social psychology.

285M. Alternative Inquiry
(4) FRIEDELL

Examination of recent radical critiques of and suggestions for the intellectual enterprise. Study of the challenges of intuitive and subjective methods to social science traditions. Critique of sociology in the light of such challenges.

290A-B-C. Teaching Assistant Training Seminar
(4-4-4) STAFF

Prerequisites: this three-quarter sequence is required of all entering graduate students. Attendance at the departmental colloquia series is required as part of this course. S/U grading only; no credit allowed toward advanced degree.

The professional roles of sociologists as teacher, researcher, and colleague will be explored. Classroom techniques will be analyzed using video self-criticism and constructive feedback. Colloquia presentations will be considered as alternative modes of teaching effectiveness. Faculty presentations on their own pedagogic methods and current research activity will be included.

ADVANCED GRADUATE STUDY AND RESEARCH COURSES

501. Apprentice Teaching
(4) STAFF

Prerequisite: Sociology 290A-B-C and teaching assistant or associate status. May be repeated for credit; units do not fulfill M.A. unit requirements.

The application of research and theory to classroom practice in the teaching of undergraduate sociology courses. At the teaching assistant level, faculty will supervise individual students as they lead discussion sections, prepare and grade examinations, read written assignments, and engage in individual consultations with undergraduates. Associates will be responsible for courses in their entirety. Weekly meetings with instructor are required.

502. Research Assistance Practicum
(2-4) STAFF

Prerequisites: research assistant status; consent of instructor. Units dependent upon percentage of time hired: 25% 2 units; 50% 4 units. May be repeated for credit; units do not count toward M.A. unit requirements.

Content will vary with individual students, each of whom will be instructed in the practical aspects of doing research in the area employed-bibliographical work, interviewing, statistical analyses, or questionnaire construction and analysis. Weekly group meetings with instructor are required.

504. Professional Problems
(4) STAFF

Units do not count toward M.A. unit requirements.

Practical problems frequently encountered by graduate students and assistant professors will be identified and analyzed. These include proposal writing, article writing, selecting the right journal or book publisher, preparing a vitae, locating job opportunities, and participating in the "politics" of colleges and universities, as well as academic departments.

591. Graduate Workshop in Sociological Research
(4) STAFF

May be repeated for credit; units do not fulfill M.A. unit requirements.

Presentation of research completed, in progress or proposed, with faculty in attendance. Students are expected to offer critical and useful comments on research.

594. Special Topics
(4) STAFF

May be repeated for credit on approval of department chair.

Special seminar on research subjects of current interest.

595AA-ZZ. Group Studies
(4) STAFF

May be repeated for credit on approval of department chair.

Critical review of research in selected fields.

596AA-ZZ. Directed Reading and Research
(2-S) STAFF

May be repeated for credit on approval of department chair. No more than half the graduate units required for the M.A. may be taken in Sociology 596.

Individual tutorial. Plan of study must be approved by department chair.

597AA-ZZ. Individual Study for M.A. and Ph.D. Examinations
(4-8) STAFF
Units do not count toward graduate degrees. Maximum of 24 units per examination.

Normally taken with the student's committee chair.

598. M.A. Thesis Research and Preparation
(1-12) STAFF
Units do not count toward graduate degree.

Research and preparation for the masters thesis. Normally taken with the student's M.A. committee chair.

599AA-ZZ. Ph.D. Dissertation Preparation
(2-6) STAFF
Maximum of 12 units total.

Normally taken with the student's committee chair.

Spanish and Portuguese

Department of Spanish and Portuguese,
Division of Humanities and Fine Arts,
Phelps Hall 4206;
Telephone (805) 893-3162
Department Chair:
Juan Bautista Avalle-Arce
Vice Chair: Harvey L. Sharrer

Faculty

Carlos H. Albarracín-Sarmiento, P.L., University of La Plata, Professor Emeritus

José Luis L. Aranguren, Ph.D., University of Madrid, Professor Emeritus

Graciela Ascarrunz-Gilman, Ph.D., UC Davis, Senior Lecturer with Security of Employment *(Spanish language and methodology)*

Juan Bautista Avalle-Arce, Ph.D., Harvard University; D. Litt., University of Castilla La Mancha, Professor *(Golden Age Spanish literature, Don Quixote, medieval Spanish literature, Spanish-American colonial literature)*

Pablo Avila, Ph.D., Stanford University, Professor Emeritus

Carlos García Barrón, Ph.D., UC Los Angeles, Professor Emeritus

David Bary, Ph.D., UC Berkeley, Professor Emeritus

Maria L. Belchior-Pontes, Ph.D., University of Lisbon, Professor Emerita

Silvia Bermúdez, Ph.D., University of Southern California, Assistant Professor *(20th-century Spanish and Latin American poetry)*

João Camilo-Dos-Santos, Doctorat d'Etat, Université de Haute Bretagne, Rennes, Professor *(19th- and 20th-century Portuguese and Brazilian literature, literary theory)*. Director, Center for Portuguese Studies

Jorge Checa, Ph.D., Princeton University, Associate Professor *(Golden Age Spanish literature)*

Víctor F. Fuentes, Ph.D., New York University, Professor *(19th- and 20th-century Spanish literature, film, contemporary Latin American drama and poetry)*

Marta Gallo, P.L., University of Buenos Aires, Professor Emerita

Mireya Jaimes-Freyre, Ph.D., Columbia University, Associate Professor Emerita

Suzanne Jill Levine, Ph.D., New York University, Professor *(Spanish and Latin American literature, literary translation)*

Francisco A. Lomelí, Ph.D., University of New Mexico, Professor *(Spanish-American literature, Chicano literature, Spanish language)*

Nélida López, B.A., Instituto Superior del Profesorado, Buenos Aires, Lecturer Emerita

Enrique Martínez-López, Ph.D., University of Madrid, Professor Emeritus

Ellen McCracken, Ph.D., UC San Diego, Associate Professor *(Latin-American literature)*

Giorgio Perissinotto, Ph.D., Columbia University, Professor *(Hispanic linguistics, medieval literature, phonology, dialectology, bilingualism, sociolinguistics)*

Allen W. Phillips, Ph.D., University of Michigan, Professor Emeritus

Sara Poot-Herrera, Ph.D., El Colegio de Mexico, Assistant Professor *(Mexican and Spanish-American literature, literary theory)*

Eda Ramelli, Doctora en Letras, National University of Mexico, Professor Emerita

Eduardo P. Raposo, Ph.D., University of Lisbon, Associate Professor *(comparative Romance grammar, syntax, and semantics; generative grammar; Spanish and Portuguese linguistics)*

Harvey L. Sharrer, Ph.D., UC Los Angeles, Professor *(medieval Spanish and Portuguese literatures, Catalan language and culture, comparative medieval literature)*

Almeida Jacqueline Toribio, Ph.D., Cornell University, Acting Assistant Professor *(Spanish linguistics, Caribbean Spanish, language acquisition)*

Frederick G. Williams, Ph.D., University of Wisconsin, Professor *(Brazilian, Portuguese, and Spanish-American literature)*

Robert E. Wilson, M.A., University of Arizona, Lecturer Emeritus

The Department of Spanish and Portuguese offers undergraduates an opportunity to master the four fundamental linguistic skills—speaking, understanding, reading, and writing—in Spanish and Portuguese and to study the literary, cultural, and linguistic heritages of the Spanish- and Portuguese-speaking peoples. The department offers the B.A. degree in Spanish and in Portuguese; the M.A. degree with specialties in Hispanic language and culture, in Spanish and Spanish-American literature, in Hispanic linguistics or studies in bilingualism, and in Hispanic, Portuguese, and Brazilian literatures; and the Ph.D. degree in Hispanic languages and literatures.

Students interested in a Spanish or Portuguese major may meet with the department chair and advisers on the first day of each quarter. Resource persons in the department office are available on a regular basis to advise on academic matters.

Qualified students majoring in Spanish or Portuguese may spend their junior year at the university's Education Abroad center at one of the following locations: Madrid, Alcalá de Henares, Barcelona, Granada, Mexico City, Chile, Costa Rica, Santiago de Chile, or Rio de Janeiro.

After completing specific prerequisites, students with a bachelor's degree in Spanish or Portuguese are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education to insure that their undergraduate preparation for the credential program is suitable. Successful completion of an advanced degree in Spanish is required for issuance of the Community College Instructor's Credential. Students interested in the related professional preparation program should contact the credential adviser prior to the fall quarter of the year in which the advanced degree will be completed.

Center for Portuguese Studies. The Center for Portuguese Studies provides support for teaching and degree programs and promotes the study of the literatures, language, and cultures of the Portuguese-speaking world. Services and activities include awarding student scholarships and stipends; sponsoring the Summer Institute in Portuguese; hosting colloquia; maintaining the center library; and sponsoring a publications series. The Center is made possible by an endowment from the Calouste Gulbenkian Foundation. Student applications for scholarships and stipends should be made to the Director of the Center.

Portuguese Summer Institute. Each summer the Center for Portuguese Studies organizes and sponsors the Summer Institute in Portuguese, offering a program of courses in Portuguese Studies, ranging from beginning intensive Portuguese to upper-division courses in language, culture, and Luso-Brazilian literatures. Participants have the opportunity to reside in a language house that provides special lectures, conversation hours, and informal gatherings. Scholarships are available to qualified applicants; further information may be obtained from the Department of Spanish and Portuguese.

Tinta, Scholarly Journal. The department's publication gives graduate and undergraduate students the opportunity to gain valuable experience by editing and publishing their own scholarly work.

Samuel A. Wofsy and Robert E. Wilson Awards. Each year the department awards two Wofsy Fellowships to outstanding graduate students at the M.A. and Ph.D. levels. The department also awards two Wilson Scholarships to outstanding junior and senior students.

Undergraduate Program

Bachelor of Arts—Spanish

Preparation for the major. Spanish 1, 2, 3, 4, 5, 6, 30. Spanish majors must maintain an average grade of at least C in Spanish courses taken prior to the junior year. Students transferring from other institutions may be tested by examination. Students planning to pursue graduate work in Spanish with emphasis in linguistics and philology are advised to take at least two quarters of college Latin or the equivalent. Students who possess proficiency in the language should not take courses lower than Spanish 6, and they are encouraged to take Spanish 16. Students who receive a grade lower than C in any of the sequence Spanish 1-3 are urged to repeat the course (for no credit if necessary) or provide themselves with a tutor before proceeding to the next course in the sequence.

All upper-division and graduate courses are given in Spanish unless otherwise noted. Spanish 30, or its equivalent, is prerequisite to all upper-division courses in which the language of instruction is Spanish. Spanish 100 or the equivalent is prerequisite to all Spanish linguistics courses.

Upper-division major. Forty upper-division units are required, of which 4 must be in Spanish 100, 12 in Spanish 110A-B-C-D, and 8 in 111A-B-C, or their equivalents as approved by a departmental adviser or the department chair. Four of the remaining 16 units may be selected from Luso-Brazilian literature, Portuguese 128, Spanish 126, 127, and 174 (film courses), or comparative literature courses in peninsular or Latin American literature. A maximum of 4 units of Spanish 128 may be applied to the upper-division major. Spanish 119A-B and/or Spanish 177 are recommended. By petition, a course taught in English translation may be accepted toward the unit requirement with the stipulation that readings for major students be in the Spanish language.

Senior Honors Program in Spanish

Qualified majors will be invited to participate in an honors program, designed to allow them to pursue independent research on a topic of particular interest to them. Requirements for admission to the program include 105 units of course credits, completion of a minimum of 30 upper-division units in the major, minimum overall grade-point average of 3.0, and a grade-point average of 3.5 or better in the major. Honors graduates will be identified each year at the head of the graduation list in Spanish and will be designated on university records and diplomas with the legend Distinction in the Major.

Bachelor of Arts—Portuguese

Preparation for the major. Portuguese 1, 2, 3, 4, 5, 6, or equivalent. Portuguese 8A-B-C is strongly recommended. Students who wish to make Portuguese their major subject must have maintained at least an average grade of C in the college courses in Portuguese taken prior to their junior year. Transfer students may be tested by examination.

Upper-division major. Forty upper-division units are required, including 102A-B, 105A-B-C, and 106A-B-C. The remaining units must be divided among other courses in the 100 series (excluding Portuguese 195). Portuguese 114, 115, 120, and 125A-B may be accepted toward the unit requirement with the stipulation that readings for the major student be in the Portuguese language. Two courses from History 108A-B, 153, 154A-B, 155A-B, 157A-B-C, or Portuguese 125A-B are recommended.

Students may, by petition, substitute 4 upper-division units in Spanish literature, linguistics, or culture courses; film courses (Spanish 126, 127, 174, Portuguese 128); comparative literature courses in which Hispanic, Portuguese, or Brazilian literature is studied; or Portuguese and Brazilian history courses.

Senior Honors Program in Portuguese

Qualified majors will be invited to participate in an honors program designed to allow them to pursue independent research on a topic of particular interest to them. Requirements for admission to the program include 105 units of course credits, completion of a minimum of 30 upper-division units in the major, minimum overall grade-point average of 3.0, and a grade-point average of 3.5 or better in the major. Honors graduates will be identified each year at the head of the graduation list in Portuguese and will be designated on university records and diplomas with the legend Distinction in the Major.

Graduate Program

In addition to departmental requirements, candidates for graduate degrees must fulfill the university degree requirements described in the chapter "Graduate Education at UCSB."

Summer Institute of Hispanic Languages and Culture

A three-summer intensive program leading to the M.A. degree in Spanish is designed primarily for secondary school teachers of Spanish. Residence at the institute and observance of a "no-English" rule are required.

Prerequisites. In addition to fulfilling the general requirements for admission to graduate status, the student must have an undergraduate major in Spanish or its equivalent and must demonstrate proficiency in speaking and writing Spanish. All applicants are required to take the general Graduate Record Exam.

Coursework. The M.A. requires 40 units or ten courses across five areas including language, linguistics, culture, literature, and interdisciplinary studies. Since it is not a research-oriented degree, the Summer Institute M.A. will not completely fulfill requirements for entry into the Ph.D. program at UCSB.

Recommended preliminary readings. Students can do the reading for many courses during the winter; lists appear in the winter bulletin, published in the fall and available upon request.

For additional information and application forms, write to the Summer Sessions Office, University of California, Santa Barbara, CA 93106.

Master of Arts—Spanish

Admission

In addition to fulfilling the general requirements for admission to graduate status, the department requires an undergraduate major in Spanish or its equivalent. International applicants who have not received a bachelor's or master's degree from a U.S. institution, or who do not speak English as their native language, must also submit Test of English as a Foreign Language (TOEFL) scores to the Graduate Division. Candidates who are deficient in preparation will be required to take the necessary undergraduate courses to make up deficiencies before beginning work in the M.A. program. A list of undergraduate courses that are deemed to be suitable undergraduate preparation is available from the graduate committee. At the end of the first year of study candidates' work will be evaluated. Those who are not making satisfactory progress toward the degree may be advised to drop out of the program.

Degree Requirements

Candidates for the M.A. in Spanish will follow one of the three programs described below. The M.A. degree is awarded according to Plan 2 (comprehensive examination) in Programs 1 and 2, and according to Plan 1 (thesis) in Program 3.

Program 1: Language and Culture. This program is designed primarily for students who wish to pursue advanced studies and who do not plan to go on to the Ph.D. It emphasizes an interdisciplinary approach. Each student will have an individual course program, designed in consultation with the program director, approved by the graduate committee, and determined in part by the nature of the student's study topic in Spanish 596. The nature of the program requires proficiency in written and oral standard Spanish.

A minimum of 12 courses is required, at least six of which must be in the graduate series. With prior approval, up to three upper-division or graduate courses from pertinent courses in Portuguese or in other departments may be included. The six graduate courses will include a sequence of two tutorials (Spanish 596) in which the student carries out a study project in Spanish. Results of the project take the form of a written paper and an oral presentation. In addition, each candidate will take a two-hour oral examination, given by a departmental committee, on the study project and on a reading list of essential works of Spanish and Spanish-American literature.

Program 2: Literature. This program is designed primarily for students who plan to pursue a Ph.D. in the field of Spanish and Spanish-American literature. The student must complete a minimum of eleven graduate and upper-division courses, at least eight of which must be in the graduate series. Spanish 121 or 122A-B are required if they have not been taken previously for the B.A. Spanish 212A and at least one two-quarter research seminar in literature (294A-B or 295A-B) are required. Up to two upper-division or graduate courses in Luso-Brazilian literature may count toward the degree. A reading knowledge of a pertinent language other than Spanish is required. Portuguese is acceptable.

The student will prepare an academic program in consultation with the program director, who will provide guidance until the student is prepared to take the comprehensive examinations. The comprehensive examinations consist of six hours of written work based on a departmental reading list and an oral examination of approximately one hour. In order to be accepted to the doctoral program, the student must pass the comprehensive examinations and receive the approval of the graduate committee.

Program 3: Hispanic Linguistics. This program is designed primarily for students who plan to go on to a Ph.D. with emphasis in either Hispanic linguistics or Spanish-English bilingualism. The focus on Hispanic linguistics provides the student with knowledge and research skills in synchronic and diachronic linguistics. Contrastive, socio-linguistic, geographical, and historical approaches are followed in the Spanish-English bilingualism emphasis. Completion of Spanish 100 (or equivalent) is a prerequisite for entrance into Program 3. In addition, Spanish 107 and 109 are prerequisites for the Spanish-English bilingualism emphasis.

Each student will have an individual course program, designed in consultation with the program director and approved by the graduate committee. Candidates are expected to complete a minimum of ten graduate and upper-division courses, at least six of which must be in the graduate series, including at least one two-quarter research seminar in Hispanic linguistics (296A-B). At least six of the ten courses must be taken within the department, including no fewer than two upper-division or graduate courses in one area of Hispanic literature.

The candidate, in consultation with a faculty adviser, will pursue an individual study of a specific topic and will present the results in the form of a short thesis. A reading knowledge of a pertinent foreign language other than Spanish (Portuguese is acceptable), or competence in the use of special research methods such as computers or statistics, is required.

Master of Arts—Portuguese

Admission

In addition to fulfilling the general requirements for admission to graduate status, the department requires an undergraduate major in Portuguese or its equivalent. International students must submit Test of English as a Foreign Language (TOEFL) scores to the Graduate Division. Students admitted to the program who are deficient in preparation will be required to take the necessary undergraduate work to make up deficiencies before beginning work in the M.A. program. At the end of the first year of study, students' work will be evaluated and those who are not making satisfactory progress toward the degree may be advised to drop out of the program.

Degree Requirements

The M.A. degree in Portuguese is awarded according to Plan 2 (comprehensive examination). The program is designed for students who plan to earn a Ph.D. in the field of Portuguese and Brazilian language and literature, and it is normally completed within two years.

The student must complete a minimum of eleven graduate and upper-division courses, at least eight of which must be in the graduate series. Spanish 121, Spanish 212A, and at least one two-quarter graduate research seminar in Portuguese or Brazilian literature (294A-B or 295A-B) are required. Up to two upper-division or graduate courses in Spanish or Spanish-American literature may count toward the degree. A reading knowledge of a pertinent language other than Portuguese is required; Spanish is acceptable.

Each student will have an individual course program designed in consultation with the program director, who will provide guidance until the student is prepared to take the comprehensive examinations. The comprehensive examinations consist of six hours of written examinations based on a departmental reading list and an oral examination of approximately one hour.

In order to be accepted to the doctoral program, the student must pass the comprehensive examinations and receive the approval of the graduate committee.

Master of Arts—Spanish and Portuguese

Admission

In addition to the general requirements for admission to graduate status, students wishing to combine graduate work in Hispanic and Luso-Brazilian literatures should have an undergraduate major in either Spanish or Portuguese, or the equivalent. International applicants who have not received a bachelor's or master's degree from a U.S. institution, or who do not speak English as their native language, must also submit Test of English as a Foreign Language (TOEFL) scores to the Graduate Division. Candidates who are deficient in preparation will take the necessary undergraduate work to make up deficiencies before beginning work in the M.A. program. At the end of the first year of study, students' work will be evaluated and those who are not making satisfactory progress toward the degree may be advised to drop out of the program.

Degree Requirements

The M.A. degree in Spanish and Portuguese is awarded according to Plan 2 (comprehensive examination). The program is designed primarily for students who wish to acquire a broad background in Hispanic and Luso-Brazilian studies, including those who contemplate subsequent work toward the Ph.D.

A minimum of 12 courses is required, at least eight of which must be in the graduate series, including Spanish 212A, and one two-quarter research seminar. Spanish 121 (if not taken previously for the B.A.) or Spanish 221A-B or Portuguese 221A-B, and a reading knowledge of a pertinent foreign language other than Spanish and Portuguese, are required.

Each student will have an individual course program designed in consultation with the program director and approved by the graduate committee. Its structure will be determined in large part by the student's interests and goals. However, all students are expected to acquire knowledge of the principal works of Hispanic, Portuguese, and Brazilian literatures. The comprehensive examination is based in part on a departmental reading list of important texts; it consists of two written tests, each followed by a one-hour oral examination.

In order to be accepted to the doctoral program, the student must pass the comprehensive examination and receive the approval of the graduate committee.

Doctor of Philosophy—Hispanic Languages and Literatures

The Department of Spanish and Portuguese offers the Ph.D. degree in Hispanic languages and literatures in three areas: Spanish and Spanish-American literature, Luso-Brazilian literature, and Hispanic linguistics.

Admission

Applicants will normally have followed a course of study leading to the M.A. degree in Spanish under Programs 2 or 3, the M.A. in Portuguese, or the M.A. in Spanish and Portuguese (see above). International applicants must submit TOEFL scores; 550 is the minimum acceptable score for admission into the graduate program.

During the first quarter of residence, the graduate committee, if it has not already done so, will specify, in the case of students who took the M.A. or equivalent on another campus, exactly which areas from our own M.A. program the student has not covered adequately. These deficiencies must be made up by taking courses specified by the graduate committee.

No later than the third and preferably during the first quarter of residence, the student will present to the graduate committee a proposal for a program of studies which may lead to a subsequent proposal for a Ph.D. dissertation. This preliminary proposal will outline courses, readings, and methods of research aimed at a broad historical period in the field, a restricted genre, or an author or authors. Students in linguistics will outline a topic with a synchronic or diachronic approach, specific level of analysis, a corpus pertinent to the intended object of research, and a suitable method of research. Specific courses and topics set forth in the proposal will be in addition to the required courses cited below, although some overlapping is possible. A more detailed guide to this first step is available from the graduate program assistant of the department.

Within two weeks after submission of the proposal, every doctoral candidate will take an oral preliminary examination presided over by the graduate committee, in which the student will make a brief commentary on a text, followed by a period of questions, to permit an evaluation of the student's potential. The preliminary examination may be repeated once upon the recommendation of the graduate committee. The doctoral committee will be formed after the oral preliminary examination, according to the procedures detailed in the above-mentioned guide to the Ph.D. program.

Degree Requirements

In addition to courses specified in the program proposal, all students will complete two two-quarter research seminars. Ph.D. students in literature will take Spanish 212A, at least one quarter of either Spanish 213 or 214, Spanish 121, if not taken previously, and, if the emphasis is on Spanish or Spanish-American literature, three graduate courses in Luso-Brazilian literature which may include courses in the Portuguese 205 and 206 series. If the emphasis is Luso-Brazilian literature, the student will take three graduate courses in Spanish or Spanish-American literature. Ph.D. students in linguistics will complete Spanish 212B; Spanish 221A-B; four graduate courses in linguistics (two of them reflecting a different level, approach, and methodology from those courses included in the program proposal); and one graduate course in literature approved by the student's doctoral committee.

Before being admitted to candidacy, the student must demonstrate a good reading knowledge of at least one foreign language besides Spanish and Portuguese, subject to approval by the graduate committee as germane to the student's program proposal. Students in linguistics may substitute for the third language an appropriate degree of computer literacy or of competence in statistics. A general command of Spanish or Portuguese will be assumed but not formally tested.

When the requirements are completed and work in the program of studies is sufficiently advanced, the student will submit to the doctoral committee a detailed written proposal for a Ph.D. dissertation. Within two weeks, the student will defend the proposal before the doctoral committee in an oral qualifying examination.

Students are advanced to candidacy when they have passed the qualifying examination and will thereupon begin work on the dissertation under the supervision of the chair of the doctoral committee. When all members of the committee have approved the final version of the dissertation, the degree will be awarded.

Portuguese Courses

LOWER DIVISION

1. Elementary Portuguese
(4) STAFF

Beginning course in Portuguese establishing fundamental auditory and oral skills, with secondary practice in reading and writing, pronunciation, intensive oral practice. Includes laboratory work.

2. Elementary Portuguese
(4) STAFF

Prerequisite: Portuguese 1 or equivalent.

Continues activities commenced with Portuguese 1.

3. Elementary Portuguese
(4) STAFF

Prerequisite: Portuguese 2 or equivalent.

Completes the basic study of the elements of the language.

4. Intermediate Portuguese
(4) STAFF

Prerequisite: Portuguese 3 or equivalent.

Begins review of basic grammar and syntax. (F)

5. Intermediate Portuguese
(4) STAFF

Prerequisite: Portuguese 4 or equivalent.

Continues review of basic grammar and syntax. (W)

6. Intermediate Portuguese
(4) STAFF

Prerequisite: Portuguese 5 or equivalent.

An intensive course designed to develop students' skills in reading and oral and written expression by reading and discussing Luso-Brazilian texts and writing compositions on related topics. (S)

8A-B-C. Portuguese Conversation
(2-2-2) STAFF

Prerequisite: Portuguese 3 or equivalent or consent of instructor.

Portuguese conversation; courses conducted entirely in Portuguese.

10. Beginning Intensive Portuguese
(12) STAFF

Designed for high school students and university undergraduates who desire to accelerate and complete a year of language work in a summer session and for graduate students wishing to fulfill the graduate language requirement with Portuguese as one of the languages in which they are competent to read works in their major field. Prepares students to continue with second year Portuguese successfully. (SS)

11. Portuguese for Graduate Students
(S) STAFF

Designed primarily for graduate students who already possess a knowledge of another romance language and who wish to acquire a reading knowledge of Portuguese.

12. Portuguese Bilingual Education
(2) STAFF

Current philosophies, problems, approaches, materials, and instructional aids used in Portuguese-English bilingual-bicultural elementary and secondary programs in a number of California school districts. (SS)

16. Portuguese for Spanish Speakers
(S) CAMILO-DOS-SANTOS

Prerequisite: strong speaking ability in Spanish to be confirmed by personal interview.

Addresses on university level the needs and strengths of students with Spanish speaking fluency and background but no formal training in Portuguese. Emphasizes skill in composition, advanced reading comprehension, standard versus vernacular usages, etc.

20. Intermediate Intensive Portuguese
(12) STAFF

Designed for high school students and university undergraduates and graduates who desire to accelerate and complete a year of language work in a summer session. An intensive course designed to review basic grammar and syntax, develop oral and written expression. (SS)

UPPER DIVISION

Portuguese 6 or equivalent is prerequisite to all upper-division courses taught in Portuguese except Portuguese 195.

Literature courses taught in English translation or courses taught in English will generally not count towards fulfilling Portuguese major requirements. See "Upper-division major" section for exceptions.

102A-B. Advanced Grammar and Composition
(4-4) STAFF

Study of the finer points of Portuguese grammar and syntax. Equal stress is placed on written and oral practice of the language. The work in class will consist of careful study of essays and articles.

105A-B-C. Survey of Portuguese Literature
(4-4-4) CAMILO-DOS-SANTOS, SHARRER, WILLIAMS

A: Portuguese literature from its origins to the sixteenth century.

B: Portuguese literature of the sixteenth, seventeenth, and eighteenth centuries.

C: Portuguese literature of the nineteenth and twentieth centuries.

106A-B-C. Survey of Brazilian Literature
(4-4-4) CAMILO-DOS-SANTOS, WILLIAMS

A: Brazilian literature of the colonial period.

B: Brazilian literature from the nineteenth century to 1922.

C: Brazilian literature from 1922 to present.

114. Literature of the Portuguese Expansion
(4) CAMILO-DOS-SANTOS, WILLIAMS

Literary masterpieces of the Portuguese Golden Age (fifteenth and sixteenth centuries, and part of seventeenth century): chronicles of the discoveries, the epic poem *Os Lusíadas* by Camões, dramatic narratives of shipwrecks — all translated into English.

115. Brazilian Literature in English Translation
(4) WILLIAMS

Prerequisite: upper-division standing or consent of instructor.

Significant writers and poets of nineteenth- and twentieth-century Brazil: Goncalves Dias, Castro Alves, Sousândrade, Machado de Assis, Mário de Andrade, Oswald de Andrade, Cecília Meireles, Guimarães Rosa, Suassuna, and others. Taught in English.

120. Portuguese Literature in English Translation
(4) WILLIAMS

A presentation of major works in Portuguese to reveal the interest and the originality of Portuguese literature through the ages.

125A-B. Culture and Civilization of Portugal and Brazil
(4-4) CAMILO-DOS-SANTOS, WILLIAMS

Prerequisite: upper-division standing or consent of instructor.

The distinctive features of Portugal and Brazil as manifested in their institutions, art, music, and literature. Taught in English.

A: Portugal.

B: Brazil.

128. Luso-Brazilian Cinema
(4) FUENTES, WILLIAMS

Prerequisite: upper-division standing or consent of instructor.

Portuguese and Brazilian films of the past forty years both as an art medium and as a document of changing society. Special attention paid to the works of the new generation of directors. When applicable, the relationship between a literary work and its film adaptation will be discussed. Taught in English.

132A-B. Luis de Camões
(4-4) CAMILO-DOS-SANTOS, WILLIAMS

A study of Camões' lyric poetry and epic poem, Os Lusíadas.

150AA-ZZ. Advanced Studies in Portuguese
(12) CAMILO-DOS-SANTOS, WILLIAMS, RAPOSO

Prerequisite: Portuguese 6 or equivalent. Course may be repeated.

A comprehensive three-track, three hour per day, course that correlates advanced grammar and composition with literary masterpieces of the Portuguese language and culture of the Luso-Brazilian world, all epochs. (SS)

170. African Literature in Portuguese
(4) CAMILO-DOS-SANTOS

Prerequisites: Portuguese 6 or equivalent; see instructor.

Modern authors from Cabo Verde, Angola, and Mozambique.

180. African Literature in Portuguese in English Translation
(4) STAFF

African writers from the ex-Portuguese colonies, presented in English translation, for the benefit of students in African Studies or related areas, who do not know Portuguese.

183AA-ZZ. Studies in Portuguese Literatures
(4) CAMILO-DOS-SANTOS, SHARRER, WILLIAMS

Prerequisite: consent of instructor. May be repeated to a maximum of 20 units provided the letter designation is different.

Topic or author chosen by faculty member; each course on a different topic.

184AA-ZZ. Studies in Portuguese Linguistics
(4) RAPOSO

Course may be repeated for a maximum of 20 units, *provided letter designation is different. Students limited to one topic per quarter.*

Topic to be chosen by faculty member.

185. Brazilian Novel of the Twentieth Century
(4) CAMILO-DOS-SANTOS, WILLIAMS

Prerequisites: Portuguese 4, 5, 6, or consent of instructor.

A study of the Brazilian novel from Machado de Assis to the present, including authors such as Lima Barreto, Érico Veríssimo, Guimarães Rosa, Lins do Rego, Graciliano Ramos, Mário de Andrade, Oswald de Andrade, Jorge Amado, Clarice Lispector.

189. Brazilian Modernism
(4) CAMILO-DOS-SANTOS, WILLIAMS

An introduction to the poetry and prose fiction of the Brazilian avant-garde of the 1920s and 1930s.

195. Senior Honors Independent Research
(4) STAFF

Prerequisite: admission to the Portuguese senior honors program.

The student will engage in research leading to a paper of considerable depth and complexity on a topic dealing with the literature and/or language of Portugal, Brazil, or Portuguese-speaking Africa.

199. Independent Studies in Portuguese
(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in Portuguese. Students are limited to 5 units per quarter and 30 units total in all 199 courses combined..

Independent studies in selected subjects not covered by course offerings.

GRADUATE COURSES

Note: The content of "studies" courses may vary from quarter to quarter and may be repeated for credit with the consent of the department graduate adviser.

205A-B-C. Survey of Portuguese Literature for Spanish Graduate Students
(4-4-4) CAMILO-DOS-SANTOS, SHARRER, WILLIAMS

Prerequisites: Portuguese 105A-B-C or concurrent attendance.

Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their Ph.D. examinations.

A: From origins to sixteenth century.

B: Sixteenth, seventeenth, and eighteenth centuries.

C: Nineteenth and twentieth centuries.

206A-B-C. Survey of Brazilian Literature for Spanish Graduate Students
(4-4-4) CAMILO-DOS-SANTOS, WILLIAMS

Prerequisites: Portuguese 106A-B-C or concurrent attendance.

Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their Ph.D. examinations.

A: Colonial period.

B: From nineteenth century to 1922.

C: From 1922 to present.

221A-B. History of Portuguese and Spanish Languages
(4-4) RAPOSO

Prerequisites: Spanish 121A-B or concurrent attendance.

Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their M.A. or Ph.D. examinations.

A: Selected topics in historical phonology in light of recent scholarship.

B: Selected topics in historical morphology and syntax in light of recent scholarship.

222. Studies in Galician-Portuguese Medieval Literature
(4) SHARRER

Selected topics in light of recent scholarship.

232A-B. Studies on Camões
(4-4) CAMILO-DOS-SANTOS, WILLIAMS

Selected topics in light of recent scholarship. Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their M.A. or Ph.D. examinations.

240. Studies in Portuguese Mannerist and Baroque Literature
(4) CAMILO-DOS-SANTOS

Portuguese poetry and prose of the sixteenth and seventeenth centuries.

245. Studies in Brazilian Colonial Literature
(4) CAMILO-DOS-SANTOS, WILLIAMS

Selected authors and topics in Brazilian literature of the sixteenth, seventeenth, and eighteenth centuries.

250. Studies on Eça de Queirós and the Portuguese Realistic Novel
(4) CAMILO-DOS-SANTOS

Eça de Queirós's work, his conception of realism, his influence on Spanish, Spanish-American and Brazilian literature, his most important followers.

255. Studies on Machado de Assis and the Brazilian Novel
(4) CAMILO-DOS-SANTOS, WILLIAMS

Machado de Assis' novelistic work; its innovative approach as a basis of modern fiction. Other novelists of his time will also be studied.

260. Studies in Brazilian Post-Independence Literature
(4) CAMILO-DOS-SANTOS, WILLIAMS

Selected authors and literary movements of the nineteenth and twentieth centuries.

265. Studies on Fernando Pessoa and the Avant-Garde
(4) CAMILO-DOS-SANTOS

Pessoa's poetry, its influence on contemporary Portuguese poetry, and its relationship to the world avant-garde movement.

283AA-ZZ. Individual Luso-Brazilian Authors and Special Topics
(4) STAFF

Course may be repeated for a total of 24 units (six courses, each a different author or topic).

Intensive study on the work of an individual Luso-Brazilian author or topic, to be chosen by the instructor.

294A-B. Research Seminar in Brazilian Literature
(4-4) CAMILO-DOS-SANTOS, WILLIAMS

In-progress grade (IP) for first quarter; grading for both quarters at the end of second quarter.

A: Primarily intended to train students in research techniques, background material, and selection of topic.

B: Completion of research paper, reporting regularly to class on progress of work.

295A-B. Research Seminar in Portuguese Literature
(4-4) CAMILO-DOS-SANTOS, WILLIAMS

In-progress grade (IP) for first quarter, grading for both quarters at the end of the second quarter.

A: Primarily intended to train students in research techniques, background material, and selection of topics.

B: Completion of research paper, reporting regularly to class on progress of work.

590. Teaching Assistant and Associate Training Course
(2) STAFF

Prerequisites: graduate standing and appointment as a teaching assistant or student associate in Portuguese. Units earned do not apply toward completion of advanced degrees. S/U grading only. Required of all first-year teaching assistants and student associates in Portuguese.

Instruction in methodology for teaching lower-division Portuguese courses at UCSB.

591. Teaching Assistant Practicum
(4) STAFF

Units earned do not apply toward completion of advanced degrees. S/U grading only. Required of all teaching assistants in Portuguese.

Supervised teaching of lower-division Portuguese courses at UCSB. Participation in occasional workshops related to the field of teaching will be required.

592. Teaching Associate Practicum
(4) STAFF

Units earned do not apply toward completion of advanced degrees. S/U grading only. Required of all student associates in Portuguese.

Supervised teaching of lower-division Portuguese courses at UCSB. Participation in occasional workshops related to the field of teaching will be required.

593. Research Assistant Practicum
(2-4) STAFF

Units earned do not apply toward completion of advanced degree. S/U grading only.

Supervised research in Luso-Brazilian literature, linguistics, or culture.

594. Special Topics
(1-4) STAFF

A special seminar on research subjects of current interest.

595AA-ZZ. Directed Teaching of Literature/Linguistics
(4) STAFF

Prerequisites: doctoral candidate with teaching assistant or associate instructor status.

Individual tutorial. Application of research and theory to classroom practice in teaching of undergraduate literature or linguistics courses. The instructor of the literature or linguistics courses will supervise the student as collaborator in the planning and teaching of it.

596. Directed Reading and Research
(2-4) STAFF

Prerequisite: consent of program adviser.

Individual tutorial. A written proposal for each tutorial must be approved by student's program adviser and by the department chair. The number of units which a student may take in this series depends on the nature of the program and the consent of the adviser or the departmental graduate committee.

597AA-ZZ. Individual Study for Master's Comprehensive or Ph.D. Examinations
(2-12) STAFF

S/U grading. No unit credit allowed toward advanced degrees.

Individual study under instructor who is a member of the student's program committee.

599AA-ZZ. Ph.D. Dissertation Research and Preparation
(2-12) STAFF

S/U grading only.

Research and writing of the dissertation. Instructor should be the chair of the student's doctoral committee.

Portuguese Courses Taught in English

The following courses require no knowledge of a foreign language. See course descriptions above.

114. Literature of the Portuguese Expansion
115. Brazilian Literature in English Translation
120. Portuguese Literature in English Translation
125A-B. Culture and Civilization of Portugal and Brazil
128. Luso-Brazilian Cinema
180. African Literature in Portuguese in English Translation

Spanish Courses

LOWER DIVISION

It is highly recommended that students who have studied Spanish previously take the placement examination administered by the department to determine proper placement in the department's language program. Students will *be placed in the Spanish 1-5 sequence depending upon examination scores. Any two courses in the series Spanish 1 through 6 must be taken in sequence and not simultaneously.*

1. Elementary Spanish

(4) STAFF

Beginning Spanish establishing fundamental auditory and oral skills, with secondary practice in reading and writing; pronunciation, intensive oral practice in short natural dialogs and drills; present tense (regular, stem-changing, and irregular verbs); "ser" and "estar"; object pronouns. Includes laboratory work.

1SS. Intensive Elementary Spanish

(4) STAFF

Beginning course in Spanish establishing auditory and oral skills, with secondary practice in reading and writing Spanish. Pronunciation, intensive oral practice, dialogs, drills. (SS)

2. Elementary Spanish

(4) STAFF

Prerequisite: Spanish 1 or equivalent.

Continues activities commenced with Spanish 1.

2SS. Intensive Elementary Spanish

(4) STAFF

Prerequisite: Spanish 1SS.

Continues activities of Spanish 1SS with increased communication and reading skills. Major grammatical structures studied include commands, complex sentences, subjunctive versus indicative, present and imperfect subjunctive, preterite and imperfect, reflexive. Introduction to reading skills. (SS)

3. Elementary Spanish

(4) STAFF

Prerequisite: Spanish 2 or equivalent.

Completes the basic study of the elements of the language.

3SS. Intensive Elementary Spanish

(4) STAFF

Prerequisite: Spanish 2SS.

Completes the basic study of the elements of the language. Taught during Summer Session.

4. Intermediate Spanish

(4) STAFF

Prerequisite: grade of C or better in Spanish 3 or equivalent.

Begins review of basic grammar and syntax.

4SS. Intensive Intermediate Spanish

(4) STAFF

Prerequisite: Spanish 3 or equivalent.

Begins review of basic grammar and syntax, designed to develop the four fundamental skills: understanding, speaking, reading, writing. Course conducted in Spanish with emphasis on vocabulary building and use of Spanish in practical situations. Refinement of reading skills. (SS)

5. Intermediate Spanish

(4) STAFF

Prerequisite: grade of C or better in Spanish 4 or equivalent.

Continues the review of basic grammar and syntax. Course conducted in Spanish.

5SS. Intensive Intermediate Spanish

(4) STAFF

Prerequisite: Spanish 4, 4SS, or equivalent.

Continues the review of basic grammar and syntax begun in Spanish 4, developing the fundamental skills. More vocabulary and practical situations. A play and other supplementary materials are read for discussion and for increasing vocabulary. (SS)

6. Intermediate Spanish

(4) STAFF

Prerequisite: grade of C or better in Spanish 5 or equivalent.

An intensive course designed to develop students' skills in reading, oral, and written expression by reading and discussing Hispanic texts and writing compositions on related topics.

6SS. Intensive Intermediate Spanish

(4) STAFF

Prerequisites: grade of C or better in Spanish 5, 5SS, or equivalent.

An intensive course designed to develop students' skills in reading as well as oral and written expression by reading and discussing Hispanic texts and writing compositions on related topics.

8A-B-C. Spanish Conversation

(2-2-2) STAFF

Prerequisites: Spanish 3 or equivalent for Spanish 8A: Spanish 4 or equivalent for Spanish 8B; Spanish 5 or equivalent for Spanish 8C.

Conversational practice through which students learn idioms, conversational courtesies of the language, etc., and improve facility in speaking and understanding the spoken language.

9A-B-C-D. Spanish Conversation: Professional Subjects

(2-2-2-2) STAFF

Prerequisites: Spanish 6 or equivalent. P/NP grading only.

Directed conversation concentrating on these professional areas:

A: Foreign service.
B: Health work.
C: Legal and social work.
D: Commerce.

16A. Spanish for Spanish Speakers

(4) ASCARRUNZ-GILMAN

Prerequisite: strong speaking ability in Spanish to be confirmed by personal interview.

Addresses on university level the needs and strengths of students with Spanish speaking backgrounds but no formal language training in Spanish speaking countries. Emphasizes skill in composition, advanced reading comprehension, standard versus vernacular usages, cross language interference etc.

16B. Spanish for Spanish Speakers

(4) ASCARRUNZ-GILMAN

Prerequisites: Spanish 16A and strong speaking ability in Spanish to be confirmed by personal interview.

Addresses on university level the needs and strengths of students with Spanish speaking background but no formal language training in Spanish speaking countries. Emphasizes skill in composition, advanced reading comprehension, standard versus vernacular usages, cross language interference etc.

30. Introduction to Hispanic Literature

(4) STAFF

Prerequisite: Spanish 6 or equivalent (may be taken concurrently). A required course for all Spanish majors to be taken prior to any upper-division courses in literature.

Hispanic literature in relation to literary problems in general. Such topics as: the functions of literature, literary periods, movements and trends. The analysis and interpretation of texts.

30SS. Intensive Introduction to Hispanic Literature

(4) STAFF

Prerequisite: Spanish 6, 6SS or equivalent (may be takne concurrently). A required course for all Spanish majors to be taken prior to any upper-division courses in literature.

Hispanic literature in relation to literary problems in general. Such topics as: the functions of literature, literary periods, movements and trends. The analysis and interpretation of texts.

UPPER DIVISION

Literature courses taught in English translation or courses taught in English will generally not count towards fulfilling Spanish major requirements. See "Upper-division major" section for exceptions.

100. Introduction to Hispanic Linguistics

(4) PERISSINOTTO, RAPOSO, TORIBIO

Prerequisites: Spanish 6 with a grade of C or better. Prerequisite to all other upper-division courses in Hispanic linguistics.

Introduction to linguistic theories, methods, and problems as applied to Spanish. Taught in Spanish with Spanish examples.

101. American Spanish

(4) PERISSINOTTO, TORIBIO

Prerequisite: Spanish 6.

Geographical, social, and stylistic distribution of phonemic, morphosyntactic, and lexical features in Spanish as spoken in Latin America.

102A-B. Advanced Grammar and Composition

(4-4) ASCARRUNZ-GILMAN

Prerequisite: Spanish 6. Required for teaching credential candidates with major in Spanish.

The study of the finer points of Spanish grammar and syntax. Equal stress is placed on written and oral practice of the language.

102C. Advanced Spanish for Communication: An Intensive Approach

(4) STAFF

Prerequisite: Spanish 6 or consent of instructor.

For the advanced student or teacher of Spanish. Special attention to problems of language interference for bilingual persons; translation exercises, vocabulary expansion, idiomatic constructions.

103. Spanish Pronunciation

(4) PERISSINOTTO

Prerequisite: Spanish 100. Required for teaching credential candidates.

Intensive patterned pronunciation drills and exercises in sound discrimination aimed at familiarizing the student with the mechanics of speech production.

104. Standard Spanish

(4) PERISSINOTTO

Prerequisite: Spanish 100.

Criteria for establishing correct usage in contemporary written and spoken Spanish; coexistence of different "correct" norms; problems of coherence in the choice of a model. Formal and informal standardization; leveling of regional differences through the influence of the mass media or the Spanish Academy.

105. Advanced Translation

(4) STAFF

Prerequisite: Spanish 6, 30, or equivalent

Oral and written translations to and from target language, allowing students to translate and interpret texts from different fields with accuracy as regards to grammar, syntax, vocabulary, and style. Theoretical points will be explained within contexts studied.

107. Languages in Contact

(4) PERISSINOTTO, RAPOSO

Prerequisite: Spanish 6.

The social and historical contexts of the contact between Spanish and Latin, Italian, French, Aztec, Quechua, English, Portuguese, etc. Causes and mechanisms that result in interference and borrowing on the phonic, grammatical, and lexical levels.

109. Spanish in the United States: The Language and Its Speakers

(4) PERISSINOTTO, TORIBIO

Prerequisite: upper-division standing or consent of instructor.

Study of Spanish used in the United States by native and immigrant groups: Mexicans, Chicanos, Cubans, Puerto Ricans and others in Spanish-speaking enclaves. Focus on language and social and cultural manifestations arising in contact between linguistically different groups. Taught in English.

110A-B-C-D. Spanish Literature from the Beginnings to the Present

(4-4-4-4) STAFF

Prerequisite: Spanish 6, 30, or equivalent.

A: Medieval Spanish literature.
B: Golden Age literature.
C: Eighteenth- and nineteenth-century Spanish literature.
D: Twentieth-century Spanish literature.

111A-B-C. Spanish-American Literature from the Beginning to the Present

(4-4-4) STAFF

Prerequisite: Spanish 6, 30, or equivalent.

A: Colonial Spanish-American literature.
B: Nineteenth-century Spanish-American literature.
C: Twentieth-century Spanish-American literature.

112. Applied Spanish Linguistics for Teachers

(4) STAFF

Prerequisite: Spanish 6 or equivalent.

Fundamentals of Spanish phonology, morphology, and syntax, with emphasis on areas that present special difficulty for English speakers. Linguistic principles applied to the analysis and correction of learner errors, and to the evaluation, production, and classroom use of teaching materials.

114A-B-C. The Spanish Language: A Linguistic Approach

(4-4-4) PERISSINOTTO, RAPOSO, TORIBIO

Prerequisite: Spanish 100.

Study of the systematic aspects of language structure which make communication possible. Each quarter deals with a different aspect of the Spanish system, as follows:

A: Phonetics and phonemics.
B: Morphology and syntax.
C: Semantics.

115A-B. Masterpieces of Spanish Literature (in English Translation)

(4-4) AVALLE-ARCE, LEVINE

Prerequisite: upper-division standing or consent of instructor.

Readings in English translation and discussion of representative works from the Middle Ages to the end of the sixteenth century, and from the seventeenth century to the end of the twentieth.

116. Juan Ruiz: The Book of Good Love (in English Translation)

(4) SHARRER

Prerequisite: consent of instructor or upper-division standing.

Reading and interpretation of the fourteenth-century Spanish masterpiece in English translation. A study of The Book of Good Love in the context of other great works of the period, such as the Decameron and the Canterbury Tales.

117. Spanish and Spanish-American Essay

(4) POOT-HERRERA

Prerequisite: Spanish 30 or equivalent.

Representative essayists of Spain, from Saavedra Fajardo to Ortega y Gasset, and of Spanish America, from Sarmiento and Montalvo to Alfonso Reyes and Octavio Paz.

118A-B. Spain's Culture and Civilization (in English Translation)

(4-4) STAFF

Prerequisite: upper-division standing or consent of instructor. Intended for nonmajors.

The culture and civilization of Spain from its beginnings to the present. Whenever possible, slides, music, and other audio-visual aids will be used.

119A-B. Spanish Institutions and Culture

(4-4) CHECA

Prerequisite: Spanish 6 or equivalent.

Study of the development of the Spanish nation, with special focus on key social and political institutions, the arts, and major currents of thought.

120A-B. Contemporary Spanish-American Fiction in English Translation

(4-4) LEVINE, MCCRACKEN

A: Reading and discussion of novels and short stories by Borges, Carpentier, Cortázar, García Márquez, Vargas Llosa, and others.

B: Reading and discussion of representative works of contemporary Mexican authors, including Yañez, Rulfo, Fuentes, and others.

121. Language and History in the Hispanic World

(4) STAFF

Prerequisite: Spanish 6, 100, or equivalent.

The different languages spoken in the Hispanic world: their origins, development, convergence, divergence, and diffusion in relation to historical processes.

122A-B. Medieval Spanish Literature

(4-4) SHARRER, AVALLE-ARCE

Prerequisite: Spanish 6, 30, or equivalent.

A detailed survey of the main trends in Spanish literature to 1500.

123A-B. Hispanic Balladry

(4-4) SHARRER

Prerequisite: Spanish 6, 30, or equivalent.

A: History of the Spanish ballad; Hispanic balladry in Spanish America, the United States, and among the Sephardic Jews.

B: Origin and originality of the Mexican ballads (corridos); their history, themes, and style.

126. Spanish Cinema

(4) CHECA, FUENTES

Study in English of Spanish films of the past forty years both as an art medium and as a document of a changing society. Special attention paid to the work of the new generation of directors. When applicable, the relationship between a literary work and its film adaptation will be studied.

127. Latin American Cinema

(4) FUENTES

Study in English of Latin American films of the past forty years both as an art medium and as a document of a changing society. Special attention paid to the work of the new generation of directors. When applicable, the relationship between a literary work and its film adaptation will be studied.

128. Creative Writing

(4) STAFF

Prerequisite: Spanish 6, 30, or equivalent. An adequate level of language proficiency is needed. P/NP grading.

Writing in such forms as short story and poem. Designed primarily for students who are inclined to write fictional prose and/or poetry in Spanish.

131. Spanish Renaissance Poetry

(4) CHECA, AVALLE-ARCE

Prerequisite: Spanish 6, 30, or equivalent.

Lyric poetry of the sixteenth century: Garcilaso, Luis de Leon, San Juan de la Cruz, and others.

132. Spanish Baroque Poetry

(4) CHECA, AVALLE-ARCE

Prerequisite: Spanish 6, 30, or equivalent.

Spanish lyric poetry of the seventeeth century. Major trends and authors. Close readings of Lope de Vega, Gongora, Quevedo, and other poets.

134. Golden Age Novel

(4) CHECA, AVALLE-ARCE

Prerequisite: Spanish 6, 30, or equivalent.

The main novelistic types of the period: novel of chivalry; pastoral novel; picaresque novel, and others (*Don Quixote* excluded).

135. Survey of Chicano Literature

(4) LOMELÍ

Prerequisite: same course as Chicano Studies 180.

The course encompasses a general overview of all genres (poetry, novel, theatre, short story and essay) of Chicano literature. A peoplee's sociohistorical experiencces are examined to understand ethnicity, creativity, and world view.

136. Modern Mexican Literature

(4) LOMELÍ, POOT-HERRERA

Prerequisite: Spanish 6, 30, or equivalent.

Study of texts explaining the development of Mexican culture and literature. Topic and writers: modernism (from Gutiérrez Nájera to Tablada); the novel on the Mexican Revolution (Azuela); and the modern essay (Alfonso Reyes and Octavio Paz).

137A-B. Golden Age Drama

(4-4) CHECA

Prerequisite: Spanish 6, 30, or equivalent.

The classic comedia, by Lope, Tirso, Alarcón, Calderón, and other dramatists.

138. Contemporary Mexican Literature

(4) LOMELÍ, POOT-HERRERA

Prerequisite: Spanish 6, 30, or equivalent.

Continued study of major trends in Mexican literature as evidenced in selected works of the following authors: the poetry of López Velarde and Octavio Paz; the *Contemporáneos* (Torres Bodet, Villaurrutia, Pellicer); and contemporary fiction (Yañez, Rulfo, Arreola, and Fuentes).

140A-B. Cervantes: Don Quijote

(4-4) AVALLE-ARCE, CHECA

Prerequisite: Spanish 6, 30, or equivalent.

Reading and discussion of the first and second parts of Don Quijote.

141. Cervantes: Other Works

(4) AVALLE-ARCE, CHECA

Prerequisite: Spanish 6, 30, or equivalent.

Readings from the minor works of Cervantes: Novelas ejemplares, Comedias, Entremeses.

142A. Don Quixote in English Translation

(4) AVALLE-ARCE

Prerequisite: upper-division standing or consent of instructor. Not open for credit to students who have received credit for Spanish 142.

Reading, examination, and discussion (all in English) of the first part of Cervantes' masterpiece and its reflections on world literature.

142B. Don Quixote in English Translation

(4) AVALLE-ARCE

Prerequisite: upper-division standing or consent of instructor.

Reading, examination, and discussion (all in English) of the second part of Cervantes' masterpiece and its reflection on world literature.

143. Don Quixote Abroad

(4) AVALLE-ARCE

Prerequisite: upper-division standing, grade-point average of 3.0 or better, or consent of instructor. Same course as Comparative Literature 112.

Comparative study of the Quixotic principle applied in literatures outside Spain; for example, in Dickens, Flaubert, Dostoevski, Mark Twain, etc.

150. Eighteenth-Century Spanish Culture

(4) STAFF

Prerequisite: Spanish 6 or equivalent.

Literature, social history, artistic, and intellectual developments, all essential for a full understanding of subsequent events in both Spain and Spanish America.

151. Catalan for Advanced Students

(4) SHARRER

Prerequisite: Spanish 6, 30, or equivalent.

Catalan for advanced students. An intensive course for students with no previous study of Catalan.

152. Readings in Catalan

(4) SHARRER

Prerequisite: Spanish 151 or equivalent or consent of instructor. Course may be repeated once for credit when readings change.

Readings in Catalan. Selected readings in Catalan prose and poetry.

153. Introduction to Basque Studies

(4) AVALLE-ARCE

Spanish Basque culture, the Basque language, its uniqueness, the geography of the Basque country (Euskalerria), its history, its literature, in Basque and in Spanish.

161. Spanish Romanticism

(4) STAFF

Prerequisite: Spanish 6, 30, or equivalent.

Main trends of Spanish romanticism–representative poets, dramatists, and prose writers.

165. Realism and Naturalism in Nineteenth-Century Spain

(4) FUENTES, CHECA

Prerequisite: Spanish 6, 30, or equivalent.

A reading of the main novelists dealing with realism and naturalism in nineteenth-century Spain.

170. The Generations of 1898 and 1927

(4) FUENTES

Prerequisite: Spanish 30 or equivalent.

Readings of such authors as Unamuno, Baroja, Azorín, Valle-Inclán, Antonio Machado, Ortega, Gómez de la Serna, Guillén, García Lorca, and others, analyzed in their historical and social context.

171. Hispanic Surrealism

(4) FUENTES

Prerequisite: upper-division standing or consent of instructor.

Surrealism in Spanish and Spanish-American literature, emphasis 1925-1950; Larrea, Hinojosa, Alberti, Lorca, Aleixandre, Cernuda, Neruda, Paz. New Hispanic Narrative, from M.A. Asturias to present. Films of Buñuel. Paintings of Dali, Picasso, Miró, etc. Lectures and readings in English.

172. Lorca

(4) STAFF

Prerequisite: Spanish 6, 30, or equivalent.

Major poems and plays of Federico Garcia Lorca, including such works as Romancero Gitano, Poeta en Nueva York, Bodas de Sangre, Yerma, La Casa de Bernarda Alba.

174. The Hispanic Novel and Cinema
(4) FUENTES

Prerequisite: Spanish 6, 30, or equivalent.

Study of three or four Hispanic novels vis-a-vis their movie versions, permitting analysis of narrative in both genres, using existing films and videos based on masterpieces of Hispanic literature. Taught in Spanish.

175. Contemporary Spanish Literature
(4) FUENTES

Prerequisite: Spanish 30 or equivalent.

Spanish literature since the Civil War. A study of the main trends of postwar Spanish novel, theater, and poetry, in their historical and social context.

176. Contemporary Spanish Culture
(4) FUENTES

Prerequisite: Spanish 6 or equivalent.

A survey of the political, religious, social, and philosophical issues in twentieth-century Spanish life and letters.

177. Spanish-American Culture
(4) WILLIAMS

Prerequisite: Spanish 6 or equivalent.

Leading social, institutional, intellectual, and artistic trends from the sixteenth century to the present.

178. Mexican Culture
(4) LOMELÍ, PERISSINOTTO, POOT-HERRERA

Prerequisite: Spanish 6. May not be taken for credit by students who have already taken Spanish 180.

Social, institutional, intellectual, and artistic trends in the development of modern Mexico.

179. The Chicano Novel
(4) LOMELI

Prerequisite: Same course as Chicano Studies 181.

Reading, analysis and crtique of the contemporary Chicano novel as it pertains to the Chicano experience.

180. Mexican Civilization (in English Translation)
(4) LOMELÍ, PERISSINOTTO, POOT-HERRERA

Prerequisite: upper-division standing or consent of instructor. Course not intended for Spanish majors.

Social, institutional, intellectual, and artistic trends in the development of modern Mexico. Taught in English.

181. Hispanic Poetry: 1900 to 1945 in English Translation
(4) FUENTES,BERMÚDEZ

Prerequisite: upper-division standing or consent of instructor. Taught in English.

Reading and discussion of twentieth-century Spanish and Spanish-American poets and trends in their socio-historical context.

182. Hispanic Poetry Since 1945 in English Translation
(4) FUENTES, BERMÚDEZ

Prerequisite: upper-division standing or consent of instructor.

Study of present-day poets—Parra, Octavio Paz, Cardenal, etc.,—and trends. Follows the Latin-American writer's growing awareness and expression of the historical and social reality of life in the Spanish-American world and the United States. Lectures and readings in English.

183AA-ZZ. Selected Authors and Topics in Hispanic Literature
(4) STAFF

Prerequisites: Spanish 6, 30, or equivalent. May be repeated for credit to a maximum of 20 units, provided letter designation is different.

Selected authors and topics in Hispanic literature. Topic or author chosen by faculty member.

184. Borges and the Contemporary Spanish-American Short Story
(4) LEVINE, LOMELÍ, POOT-HERRERA

Prerequisite: Spanish 6, 30, or equivalent.

The course will deal with Borges' short stories as pioneers of Spanish-American modern trends in narrative literature, and may include works from authors such as Onetti, Fuentes, García Márquez, etc.

185. The Spanish-American Nueva Novela
(4) LEVINE, LOMELÍ, POOT-HERRERA

Prerequisite: Spanish 6, 30, or equivalent.

Readings of such authors as Borges, Rulfo, Fuentes, Vargas Llosa, García Márquez, Donoso. Emphasis put on the innovative structure and language brought to Hispanic literature by the so-called nueva novela.

187A-B. Modern Hispanic Drama
(4-4) FUENTES

Prerequisite: Spanish 25, 30, or equivalent.

A: Representative dramatists of Spain such as Unamuno, Valle-Inclán, García Lorca, Buero Vallejo, and others.

B: Representative Spanish-American dramatists such as Carballido, Solórzano, Wolff, Cuzzani, Márquez, and others.

188. Modernism
(4) WILLIAMS

Prerequisite: Spanish 25, 30, or equivalent.

Introduction to the prose and poetry of Hispanic modernism. Major writers and their most representative works: Martí, Darío, Rodo, Lugones. Lyric poetry, short story, novel, the essay, and other forms will be studied.

189. Vanguard Poetry in Spanish America
(4) FUENTES, LOMELÍ, POOT-HERRERA

Prerequisite: Spanish 25, 30, or equivalent.

Modernist and vanguard schools: Darío, Herrera y Reissig, Huidobro, Vallejo, Neruda, Paz, and others.

190. Borges and his Precursors
(4) LEVINE

Prerequisite: upper-division standing or consent of instructor.

This course focuses on Borges the reader, and traces in particular his affinities with North American and European literatures. Lectures and readings in English.

191. The Theme of Don Juan in Spanish Literature
(4) STAFF

Prerequisite: Spanish 6, 30, or equivalent.

The theme of *Don Juan* as developed by representative Spanish authors from the sixteenth to twentieth century.

195. Senior Honors Independent Research
(4) STAFF

Prerequisite: Spanish 6, 30, or equivalent.

The student will engage in research leading to a paper of considerable depth and complexity on a topic dealing with the literature and/or language of Spain and Spanish America.

199. Independent Studies in Spanish
(1-5) STAFF

Prerequisites: students must 1) have obtained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed at least two upper division courses in Spanish. Students are limited to five units per quarter and 30 units total in all 198/199 courses combined. Consent of department.

Independent studies in selected subjects not covered by course offerings.Graduate Courses

Note: The content of "studies" courses may vary from quarter to quarter and be repeated for credit with the consent of the department graduate adviser.

200. Synchronic Linguistics
(4) PERISSINOTTO, RAPOSO

In-depth study on particular subjects in the field of the phonological, syntactic, or semantic component, or the lexicon, as applied to modern Spanish.

202. Diachronic Linguistics
(4) PERISSINOTTO, RAPOSO

The problem of linguistic change. Current trends in diachronic linguistics as applied to Spanish. In-depth study on particular subjects of the history of the Spanish language, historical grammar of the Spanish language, or Spanish philology.

203A. Morphology and Syntax I
(4) Perissinotto, Raposo

Prerequisite: graduate standing.

An in-depth study of Spanish and Portuguese synchronic morphology and syntax, both at a descriptive and at a theoretical level. The focus is on morphology, morpho-syntactic processes and single clausal syntactic phenomena.

203B. Morphology and Syntax II
(4) PERISSINOTTO, RAPOSO

Prerequisites: graduate standing. Spanish 203.

An in-depth study of Spanish and Portuguese synchronic syntax, both at a descriptive and at a theoretical level. The focus is on complex structures of various types and bi-clausal phenomena.

207. Description and Measurement of Spanish-English Bilingualism
(4) STAFF

Prerequisites: Spanish 100, 107, 108A-B-C or consent of instructor.

Study of the various dimensions of bilingualism. Identification and delimitation of variables; choice of effective and acceptable units, and elaboration of measurement techniques. Validation of appropriate indices. Sampling techniques; proficiency tests.

209. Dialectology
(4) PERISSINOTTO, RAPOSO

A study of Spanish as it developed and is now spoken in the various parts of Spain and Spanish America, with the distinguishing features of each. The reasons for the distinctive phenomena: morphological, phonological, syntactic, lexigraphic. Indigenous substrata and historical influences (e.g., Anglicisms from the United States) in their formation. Use of texts of different periods.

210A-B-C-D. Spanish Literature for Portuguese Graduate Students
(4-4-4-4) STAFF

Prerequisite: graduate standing in Portuguese.

A. Medieval Spanish Literature. B. Golden Age Literature. C. 18th and 19th century literature. D. 20th century literature.

211A-B-C. Survey of Spanish-American Literature for Portuguese Graduate Students
(4-4-4) STAFF

Prerequisite: graduate standing in portuguese.

Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their Ph.D. examination. A: Colonial Spanish-American literature. B: Nineteeth-century Spanish-American literature. C: Twentieth-century literature.

212A-B. Bibliography and Methods of Research
(4-4) PERISSINOTTO, SHARRER

A: Approaches and methods for research in Hispanic literature. Study of the main bibliographic sources.

B: Approaches and methods for research in Hispanic linguistics fields.

213. Theory of Literary Criticism
(4) CHECA, LEVINE, POOT-HERRERA

Analysis and application of methods of literary criticism in relation to principal texts in Spanish literature, with emphasis on stylistics, the history of Hispanic criticism, and the impact of phenomenology and the social sciences. Techniques of literary scholarship.

214. History of Hispanic Literary Criticism
(4) AVALLE-ARCE, CHECA, POOT-HERRERA

A diachronic survey of the theory of literature and literary criticism in the West, from the Middle Ages to the present, with particular attention to the Hispanic world.

218. Individual Hispanic Authors and Special Topics
(4) STAFF

Course may be repeated for a total of 24 units (six courses, each a different author).

Intensive study of the work of an individual Hispanic author, to be chosen by the instructor.

221A-B. History of Spanish and Portuguese Languages
(4-4) PERISSINOTTO, RAPOSO

Prerequisites: Spanish 121.

Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their M.A. and Ph.D. examinations.

A: Selected topics in historical phonology in light of recent scholarship.

B: Selected topics in historical morphology and syntax in light of recent scholarship.

222A-B. Studies in Medieval Peninsular Literature
(4-4) PERISSINOTTO, SHARRER, AVALLE-ARCE

Selected topic studied in the light of recent scholarship. Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their M.A. and Ph.D. examinations.

230A-B-C-D-E-F. Studies in Spanish Literature of the Sixteenth and Seventeenth Centuries
(4-4-4-4-4-4) CHECA, AVALLE-ARCE

A total of 24 units is possible for students wishing to enroll in all sections of Spanish 230.

Study courses will be taught under general title, with following divisions: A: Poetry; B: Narrative prose; C: Comedia; D: Auto sacramental; E: The mystics; F: Moralists and satirists.

240A-B. Studies on Cervantes
(4-4) AVALLE-ARCE

Selected topics studied in the light of recent scholarship. Students will write an extensive paper and be responsible for additional readings to enrich their preparation and ready them for their M.A. and Ph.D. examinations.

245. Studies in Spanish-American Colonial Literature
(4) AVALLE-ARCE

Selected topics from the sixteenth, seventeenth, and eighteenth centuries.

260. Studies in Nineteenth-Century Spanish Literature
(4) CHECA, FUENTES

Seminars covering selected authors, theses, or genres from the period in question.

270. Studies in Twentieth-Century Spanish Literature
(4) FUENTES

Seminars covering selected authors, theses, or genres from the period in question.

275. Spanish Literature Since the Civil War
(4) FUENTES

Spanish literature since the civil war. Spanish literature from 1939 to the present; theatre, poetry, novel.

280. Studies in Twentieth-Century Spanish-American Poetry
(4) FUENTES, POOT-HERRERA

Seminar in selected authors and aspects of nineteenth, and twentieth-century Spanish-American poetry. Postmodernist and vanguard schools.

283. El Modernismo
(4) STAFF

The influence of Rubén Darío and his followers on the prose and poetry of Spanish America and Spain: 1888 to 1920.

285. Studies in Twentieth-Century Spanish-American Fiction
(4) LEVINE, LOMELÍ, POOT-HERRERA

Seminar in selected authors of twentieth-century Spanish-American novel.

290. Literature of a Single Spanish-American Country
(4) STAFF

May be repeated for credit for different countries.

An intensive study of the literature of a particular Spanish-American country each time the course is offered.

294A-B. Research Seminar in Spanish-American Literature
(4-4) STAFF

In-progress grading for the first quarter; grading for both quarters to be given at the end of the second quarter.

A: Primarily intended to train students in research techniques; background material and selection of topic.

B: Completion of research paper, reporting regularly to class on progress of work.

295A-B. Research Seminar in Spanish Literature
(4-4) STAFF

In-progress grading with grading for both quarters to be given at the end of the second quarter.

A: Primarily intended to train students in research techniques; background material, critical approach, and selection of topic.

B: Completion of research paper, reporting regularly to class on progress of work.

296A-B. Research Seminar in Spanish Linguistics
(4-4) PERISSINOTTO, RAPOSO

In-progress grading for the first quarter with grading for both quarters to be given at the end of the second quarter.

A: Primarily intended to train students in research techniques; background material and selection of topic.

B: Completion of research paper, reporting regularly to class on progress of work.

590. Teaching Assistant and Associate Training Course
(2) STAFF

Prerequisites: graduate standing and appointment as a teaching assistant or associate in Spanish. Units earned do not apply tóward completion of advanced degrees. S/U grading only. Required of all first-year teaching assistants and student associates in Spanish.

Instruction in methodology for teaching lower-division Spanish courses at UCSB.

591. Teaching Assistant Practicum
(4) STAFF

Units earned do not apply toward completion of advanced degrees. S/U grading only. Required of all teaching assistants in Spanish.

Supervised teaching of lower-division Spanish courses at UCSB. Participation in occasional workshops related to the field of teaching will be required.

592. Teaching Associate Practicum
(4) STAFF

Units earned do not apply toward completion of advanced degrees. S/U grading only. Required of all student associates in Spanish.

Supervised teaching of lower-division Spanish courses at UCSB. Participation in occasional workshops related to the field of teaching will be required.

593. Research Assistant Practicum
(2-4) STAFF

Units earned do not apply toward completion of advanced degrees. S/U grading only.

Supervised research in Hispanic literatures, linguistics, or culture.

594AA-ZZ. Special Topics
(1-4) STAFF

A special seminar on research subjects of current interest.

595AA-ZZ. Directed Teaching of Literature/Linguistics
(4) STAFF

Prerequisites: doctoral candidate with teaching assistant or associate instructor status.

Individual tutorial. Application of research and theory to classroom practice in teaching of undergraduate literature or linguistics courses. The instructor of the literature or linguistics course will supervise the student as collaborator in the planning and teaching of it.

596. Directed Reading and Research
(2-4) STAFF

Prerequisites: consent of instructor; approval of department chair.

Individual tutorial. A written proposal for each tutorial must be approved by student's program adviser and by the department chair. The number of units which a student may take in this series depends on the nature of the program and the consent of the adviser or the departmental graduate committee.

597AA-ZZ. Individual Study for M.A. Comprehensive and Ph.D. Examinations
(2-8) STAFF

Prerequisites: consent of advisor; approval of department chair. No unit credit allowed toward advanced degrees.

Individual study for M.A. comprehensive and Ph.D examinations. Instructor should be student's major professor or chair of doctoral committee.

598A-Z. Master's Thesis Research and Preparation
(2-12) STAFF

Prerequisites: consent of instructor; approval of department chair. No unit credit granted toward degree.

Only for research underlying the thesis and writing of the thesis.

599AA-ZZ. Ph.D. Dissertation Research and Preparation
(2-12) STAFF

S/U grading only; approval of instructor and department chair.

Ph.D. dissertation preparation. Only for research in preparing and writing of the dissertation. Instructor should be the chair of student's doctoral committee.

Spanish Courses Taught in English

The following courses require no knowledge of a foreign language. See course descriptions above.

109. Spanish in the United States: The Language and its Speakers
115A-B. Masterpieces of Spanish Literature in English Translation
116. Juan Ruiz: The Book of Good Love
118A-B. Spain's Culture and Civilization in English Translation
120A-B. Contemporary Spanish-American Fiction in English Translation
126. Spanish Cinema
127. Latin American Cinema
142A-B. Don Quixote in English Translation
171. Hispanic Surrealism
180. Mexican Civilization
181. Hispanic Poetry: 1900 to 1945 in English Translation
182. Hispanic Poetry since 1945 in English Translation
192. Awareness of Self in the Hispanic Tradition

Speech and Hearing Sciences

Department of Speech and Hearing Sciences,
Division of Mathematical, Physical, and Life Sciences,
Snidecor Hall 1657;
Telephone (805) 893-2281

Acting Department Chair:
Daniel W. Hone

Faculty

Jeffrey L. Danhauer, Ph.D., Ohio University, Professor *(audiology)*

Sanford E. Gerber, Ph.D., University of Southern California, Professor *(audiology)*

Diane B. Gilchrist, M.A., UC Santa Barbara, Lecturer *(speech and language pathology)*

Theodore D. Hanley, Ph.D., University of Iowa, Professor Emeritus

Janis Costello Ingham, Ph.D., University of Kansas, Professor *(speech and language pathology)*

Roger J. Ingham, Ph.D., University of New South Wales, Professor *(speech and language pathology)*

Roberta A. Jackson, M.A., UC Santa Barbara, Lecturer *(speech and language pathology)*

The speech and hearing sciences major is the only such program among the nine campuses of the University of California. Degrees are offered at the B.A., M.A., and Ph.D. levels.

Note: Admission to all programs in the Department of Speech and Hearing Sciences is suspended pending administrative and academic review.

Undergraduate Program

The B.A. program is designed to provide students with a rigorous grounding in the development of normal communication in the speech, language, and hearing domains and with an understanding of the various factors (developmental, psychological, environmental, genetic, neurologic, anatomic) that can disrupt the communication system and produce communication disorders. Through coursework and observation in the campus clinic, students also gain an appreciation of methods for the assessment of communication in children and adults and an overview of the range of intervention procedures used for the treatment of persons with communication disorders. Preparation for the major includes interdisciplinary coursework central to the thrust of the major in mathematics, physical sciences, behavioral sciences, and the humanities. Students who successfully complete the B.A. in speech and hearing sciences are then prepared to enter graduate programs throughout the country for academic and clinical education leading to the master's degree and to professional preparation as speech-language pathologists or audiologists. Undergraduate students are urged to consult with the department's peer adviser or faculty undergraduate adviser each quarter. The department office will provide lists of the required and elective courses and their sequences.

Bachelor of Arts—Speech and Hearing Sciences

Preparation for the major. Speech and Hearing Sciences 50, 51, 52; Interdisciplinary Studies 5 or Computer Science 1A; Linguistics 20; Psychology 1, 5 (or PSTAT 5), and 105; and Zoology 25.

Upper-division major. 48 upper-division units are required, distributed as follows: Speech and Hearing Sciences 100L, 101L, 120, 121, 122, 128, 131, 131L, 133, 133L, 153, 154, 155, and 166. One of the following courses must be taken: Speech and Hearing Sciences 167 or 195.

Senior honors students are required to take Speech and Hearing Sciences 200 and 182A-B. The latter may be used to fulfill the required elective course.

Senior Honors Program

The Department of Speech and Hearing Sciences has a senior honors program for qualified upper-division students. Details concerning the program may be obtained from the department office.

Graduate Program

Note: Admission to graduate programs in the Department of Speech and Hearing Sciences is suspended pending administrative and academic review.

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Master of Arts—Speech and Hearing Sciences

UCSB's master's degree program in speech and hearing sciences is accredited by the Educational Standards Board of the American Speech-Language-Hearing Association in both speech-language pathology and audiology. The master's degree program is designed primarily to provide the theoretical and clinical background necessary to practice in the fields of speech-language pathology and audiology, although it is also possible to obtain a nonclinical master's degree. Interested students should consult directly with the department's chair of graduate admissions. The master's and M.A./Ph.D. programs are designed for full-time students only.

At the end of the master's degree program, the student will have completed the academic and practica requirements needed for the Certificate of Clinical Competence in speech-language pathology or audiology offered by the American Speech-Language-Hearing Association. A graduate of this program will also be eligible to obtain licensure from the State of California to practice speech-language pathology or audiology. Additionally, the student may elect to receive one of three Clinical Rehabilitative Services credentials needed to work in the public schools of California. The master's degree student shall complete all coursework required for the master's degree, including Speech 200 and Speech 598 (up to 6 units). Additional requirements: (1) introductory statistics; and (2) an original research thesis. The student must also complete coursework and practica requirements of the various licensing agencies to practice speech-language pathology or audiology in given sites. For information on specific coursework and practica requirements, contact the graduate adviser, Department of Speech and Hearing Sciences.

Doctor of Philosophy—Speech and Hearing Sciences

The doctoral program in speech, language, and hearing sciences is a full-time program designed to prepare scholars and researchers for positions in university and research settings. The doctoral program has an applied research orientation and emphasizes research into the areas of etiology, assessment, measurement, and treatment of human communication disorders. Complementary coursework for students with specialized interests is also available from other UC campuses such as UC Berkeley, UC San Diego, and UC San Francisco. Entering graduate students normally have an undergraduate degree, or its equivalent, in the area. Many students will have completed master's degrees in speech-language pathology or audiology as well. Students who do not already have a master's degree in speech and hearing sciences will acquire an M.A. in the process of completing the doctoral program.

Completion of the Ph.D. program requires: (1) satisfactory demonstration, by examination and/or coursework, of mastery of the scientific fields considered to be the core of the speech, language, and hearing sciences: speech production/perception processes and disorders, language processes and disorders, hearing processes and disorders, and research methodology; (2) reading proficiency in one or two foreign languages or a specialized skill area such as computer programming judged by the advisory committee to be necessary to the student's research; (3) demonstrated proficiency in university-level teaching; (4) enrollment in research activities with at least one faculty member each quarter; (5) satisfactory completion of written and oral qualifying examinations; and (6) completion and oral defense of an acceptable doctoral dissertation. Detailed information describing the doctoral program and its faculty is available from the department office. Students are encouraged to interview with the relevant faculty prior to application.

Speech and Hearing Sciences Courses

LOWER DIVISION

1. Principles of Communication and Language
(4) GERBER

What constitutes communication and language? Considerations of bee dancing, primate sign language, and dolphinese. What may be described as communication and language? How did speech evolve? How can competent and disordered language users be discriminated?

30. Introduction to Manual Communication
(4) STAFF

This course will teach basic communication competencies in Pidgin Sign English (PSE) and beginning American Sign Language (ASL) including basic vocabulary, the manual alphabet, ASL idioms, and ASL syntax. Study of psychosocial aspects of deafness and the deaf culture will be included.

50. Introduction to Communication Disorders
(4) INGHAM R.

Prerequisite: Speech and Hearing Sciences 52 (may be taken concurrently).

Description and illustration of speech, language, and hearing of children and adults with a variety of communication disorders including phonology, stuttering, voice, aphasia, language, and hearing disorders. Includes consideration of precipitating and maintaining factors.

51. Neuroanatomy and Neurophysiology for Speech, Language, and Hearing
(2) INGHAM J.

Prerequisites: Zoology 25; Biology 20 or 23 or 28.

Autotutorial, audio-visual instruction of neuroanatomy and neurophysiology for speech, language, and hearing. Computerized testing of competence is required.

52. Library Research Methods in Speech and Hearing

(2) STAFF

Lectures, written assignments, and computerized information searching related to the retrieval and use of reference sources in speech and hearing.

UPPER DIVISION

100L. Observation and Recording: Speech and Language Clinic

(1) STAFF

Prerequisites: Speech and Hearing Sciences 50 recommended and consent of instructor. May be repeated for credit to a maximum of 3 units.

Behavioral observation and participation in the clinical setting, with introduction to assessment and remediation procedures.

101L. Observation and Recording: Hearing Clinic

(1) STAFF

Prerequisites: Speech and Hearing Sciences 50; Speech and Hearing Sciences 131 or 133 (or concurrent enrollment) and consent of instructor. May be repeated for credit to a maximum of 3 units.

Observation of diagnostic procedures in hearing clinic; recording of audiometric data.

120. Phonemics in Communication Disorders

(4) INGHAM J.

Prerequisites: Speech and Hearing Sciences 121 (or equivalent background in the accoustical sciences); Linguistics 20.

Identification of the phonemes of American English and their symbolic representation, including modifying symbols for deviant phonology. Acoustic, physiological, and perceptual parameters of speech sound formation.

121. Physics of Speech and Hearing

(4) GERBER

Prerequisite: Speech and Hearing Sciences 50 or consent of instructor.

Introduction to the physics of sound as applicable to speech and hearing sciences; classification of different sounds; properties of sound; acoustics of tubes and its relationship to human speech sounds; psychophysics of hearing: pitch, intensity, loudness, and their measurement.

122. Anatomy, Physiology, and Neurology of the Speech Mechanism

(4) STAFF

Prerequisite: Speech and Hearing Sciences 51.

Anatomical, physiological, and neurological bases for an understanding of speech communication.

128. Aural Anatomy and Pathology

(4) DANHAUER

Prerequisite: Speech and Hearing Sciences 51.

Anatomy and physiology of the human auditory system; causes and types of hearing impairment; otological considerations; medical and surgical implications.

131. Assessment and Rehabilitation for Hearing-Impaired Adults

(4) DANHAUER

Prerequisites: Speech and Hearing Sciences 121, 122 (concurrent enrollment acceptable), and 128.

Introduction to psychoacoustic principles as applied to audiometric diagnostics and aural rehabilitatiion with adults.

131L. Assessment and Rehabilitation for Hearing-Impaired Adults: Clinical Laboratory

(1) STAFF

Prerequisites: consent of instructor and concurrent enrollment in Speech and Hearing Sciences 131.

Supervised participation in the clinical setting of diagnostic and rehabilitation procedures with adults.

133. Assessment and Habilitation for Hearing Impaired Children

(4) GERBER

Prerequisite: Speech and Hearing Sciences 128.

Anatomical, physiological, and behavioral development of the hearing impaired child; etiology, assessment, and habilitation of early onset deafness.

133L. Assessment and Habilitation for Hearing-Impaired Children Clinical Laboratory

(1) STAFF

Prerequisite: consent of instructor or concurrent enrollment in Speech and Hearing Sciences 133.

Supervised participation in the clinical setting of diagnostic and remediation procedures with children.

135. Amplification for the Hearing Impaired

(4) DANHAUER

Prerequisites: Speech and Hearing Sciences 121, 128, 131 or consent of instructor.

153. Language Acquisition

(4) STAFF

Prerequisites: Linguistics 20, Psychology 105, Speech and Hearing Sciences 50.

The developmental stages children pass through from infancy toward adult linguistic competence will be explored. Issues and principles with respect to interaction of linguistic cognitive and social domains will be emphasized.

154. Assessment and Treatment of Child Language Disorders

(4) STAFF

Prerequisites: Speech and Hearing Sciences 153, 166.

An introduction to the methods used in the identification and remediation of child language disorders. Assessment and treatment of morphologic, pragmatic, syntactic, and semantic disorders will be discussed.

155. Assessment and Treatment of Child Phonologic Disorders

(4) INGHAM J.

Prerequisites: Speech and Hearing Sciences 120, 153, 166.

A study of principles and methods for assessing children's speech production to determine existence of phonologic disorders and a review of varieties of treatment methods for such disorders.

166. Principles of Behavior Modification

(4) INGHAM R.

Prerequisite: Psychology 1.

Basic principles of operant conditioning and their use in classroom, family, and clinical environments with special reference to speech-language pathology.

167. Introduction to Stuttering

(4) INGHAM R.

Prerequisite: Speech and Hearing Sciences 50.

This course will review and analyze the features and characteristics of stuttering, the areas and causes of stuttering, conditions that modify stuttering, and current therapies for stuttering.

170L. Clinical Practice: Hearing

(1-2) STAFF

Prerequisites: senior standing, 3.0 grade-point average and consent of instructor. May be repeated for a maximum of 6 units total for Speech and Hearing Sciences 170L and 171L.

Supervised application of diagnostic procedures in hearing clinic. Class size limited to assure appropriate supervision.

171L. Clinical Practice: Speech and Language

(1-2) STAFF

Prerequisites: senior standing, 3.0 grade-point average, and consent of instructor. May be repeated for a maximum of 6 units. Six units total may be repeated between Speech and Hearing Sciences 170 and 171.

Supervised application of remedial procedures in various clinical settings. Class size limited to assure appropriate supervision.

182A-B. Senior Honors Thesis

(4-4) STAFF

Prerequisite: Speech 200 and senior honors status. Students must take 8 units, 4 each in winter and spring quarters, with a grade given at the end of spring. Open to senior honors students only. Only 4 units may apply to major.

Independent work with faculty sponsor culminating in senior thesis.

191. Practicum in Speech and Hearing Sciences

(1-5) STAFF

Prerequisites: open to juniors and seniors of proven scholastic ability by consent of instructor; two upper-division courses in the practicum area. Course may be repeated for a maximum of 5 units.

Provides faculty supervision for students participating in formal, practical research experiences. Written proposal required.

194. Group Studies for Advanced Students

(1-4) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated for a maximum of 6 units.

Selected topics in accordance with instructor's area of specialization.

197. Instructional Laboratory

(1-4) STAFF

Prerequisites: senior standing; 3.0 grade-point average; consent of instructor.

Tutoring experience for advanced undergraduate students in preparation for graduate education.

199. Independent Studies

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in the major. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Admission by consent of department chair and instructor. Written proposal required.

GRADUATE COURSES

200. Research Methods for Communication Disorders

(4) INGHAM, R.

Prerequisite: consent of instructor.

This course will review the principal experimental and descriptive research designs applicable to group and single subject investigations of speech, language, and hearing disorders. Students will also be introduced to appropriate data analysis methods for these designs.

202T. Microcomputer Basics

(1) STAFF

Prerequisite: consent of instructor.

Basics of microcomputers with applications to word processing and data bases. Supervised practice.

203T. Microcomputer Statistics Applications

(1) STAFF

Prerequisite: consent of instructor.

The use of ABSTAT and SAS statistical packages is explained. Supervised practice.

206. Prevention and Evaluation of Endogenous Disorders

(4) GERBER

Prerequisite: consent of instructor.

Prevention and etiology of communication disorders of endogenous origin; chromosomal aberrations; genetic disorders. Prenatal diagnosis, genetic counseling, primary and secondary prevention. (Offered alternate years)

207. Prevention and Evaluation of Exogenous Disorders

(4) GERBER

Prerequisite: consent of instructor.

Prevention and etiology of communication disorders of exogenous origin; teratogenic and iatrogenic etiologies; toxins, trauma. Programs of prevention, epidemiological concerns. (Offered alternate years)

211L. Aural Rehabilitation: Children

(1-2) STAFF

Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.

Supervised clinical practicum with hearing impaired infants and young children. Includes parent counseling and parent training.

212L. Aural Rehabilitation: Adults

(1-2) STAFF

Prerequisite: consent of instructor. Course may be repeated for a maximum of 8 units.

Supervised clinical practicum with hearing impaired adults regarding communication difficulties.

213C. Curriculum Instructional Procedures and Materials: Speech, Language, and Hearing

(2) STAFF

Prerequisites: consent of instructor; concurrent enrollment in Speech 218C or 219C. Students who received credit for Speech 218A/219A may not receive credit for this course.

Remedial and instructional procedures for student teaching in speech, language, or hearing. Applicable legislation and the Educational Code will be emphasized.

215L. Assessment and Evaluation of Speech and Language

(1-2) STAFF

Prerequisite: consent of instructor. Course may be repeated for a maximum of 4 units.

Review of literature as it pertains to assessment of communicative disorders. Discussion of issues of assessment including use of standard tests and clinician constructed tasks. Laboratory is required. Application of assessment procedures in speech/language.

216L. Advanced Clinical Practice: Clinical Supervision

(1-4) STAFF

Prerequisites: at least three quarters successful completion of clinical practicum and consent of instructor. Students who have received credit for Speech and Hearing Sciences 271C will not receive credit for this course.

Clinical practicum in supervision will be conducted under the direction of the instructor. Topics in clinical supervision will be discussed.

217L. Graduate Field Externship in Speech and Hearing

(2-6) STAFF

Prerequisites: consent of faculty committee. Students who have received credit for Speech and Hearing Sciences 296 will not receive credit for this course.

Externship including intensive field experience, seminars, observation, and participation in service program in speech and hearing conducted in a teaching hospital or community center.

218C. Student Teaching: Speech and Language

(6) STAFF

Prerequisites: completion of one graduate year, decision of faculty committee, and completion of 150 clinical clock hours. Students who have received credit for Speech and Hearing Sciences 298B will not receive credit for this course.

Students must complete a total of 100 clock hours of actual teaching exclusive of observation in the public school setting.

219C. Student Teaching: Hearing

(6) STAFF

Prerequisites: completion of one graduate year, decision by faculty committee, and completion of 150 clinical clock hours. Students who have received credit for Speech and Hearing Sciences 298D will not receive credit for this course.

Student must complete a total of 100 clinical clock hours of education audiology duties exclusive of observation in the public school setting.

222. Auditory Pathology

(4) GERBER

Prerequisite: consent of instructor.

Diagnosis of hearing disorders viewed from the perspective of auditory organ pathology; conductive, cochlear, and retrocochlear disorders; pathological mechanisms and consequences.

223. Electrophysiologic Audiology

(4) STAFF

Prerequisite: consent of instructor.

Electrophysiology of hearing including acoustic, mechanical, and electrical events; measurement techniques including electrocochleography, single unit responses, and auditory evoked potentials; other physiologic measures of auditory function and a comparison of measures.

223L. Electrophysiological Audiology: Clinical Laboratory

(1-4) STAFF

Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.

Supervised application of auditory evoked potential procedures will be examined, including both neurologic and audiometric evaluations; development of clinical research questions and strategies.

224. Pediatric and Childhood Audiology

(4) GERBER

Prerequisite: consent of instructor.

Developmental anatomy, physiology, and pathology of hearing. Screening and diagnostic audiometry for neonates, infants, and children. Genetics of hearing and deafness; etiology of communicative disorders.

224L. Pediatric Audiology Clinical Laboratory

(1-4) STAFF

Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.

Supervised application of comprehensive evaluation of the pediatric population (0-3 years). Emphasis on developing special diagnostic techniques with the hearing-impaired and young difficult to test children. Development of clinical research questions and strategies.

225. Impedance Audiometry

(4) STAFF

Prerequisite: consent of instructor.

Theoretical and procedural issues in assessing the auditory system via impedance audiometric techniques. Emphasis on contemporary research in the nonparticipatory evaluation of the ear involving immitance, tympanometry, and acoustic reflex measures.

226. Clinical Audiology

(4) DANHAUER

Prerequisite: consent of instructor.

Study of advanced audiologic diagnostic procedures and related research; advanced techniques and interpretation in pure tone audiometry; speech tests, special tests for determination of site of lesion, electrophysiologic audiometry and central auditory tests.

226L. Clinical Audiology Laboratory

(1-4) STAFF

Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.

Supervised application of differential diagnostics of the auditory system, with emphasis placed on development of an efficient test battery to determine site of lesion; use of diagnostic and research instrumentation; development of clinical research questions and strategies.

227A. Aural Rehabilitation

(4) DANHAUER

Prerequisite: consent of instructor.

Contemporary theoretical, methodological, and experimental approaches to understanding and improving communication of the hearing impaired. Evaluation of electroacoustic amplification systems for the hearing impaired are covered.

227B. Electroacoustic Assessment

(4) DANHAUER

Prerequisite: consent of instructor.

In-depth evaluation, recommendation, and fitting procedures for amplification devices for the hearing impaired. Emphasis on contemporary research in electroacoustic analysis of amplification systems.

227L. Electroacoustic Assessment Clinical Laboratory

(1-4) STAFF

Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.

Assessment and evaluation of a variety of amplification systems for the hearing impaired. Although personal amplification systems will be stressed, group systems and home devices for the deaf will be included. Supervised clinical practicum accompanied by development of clinical research questions and strategies.

228. Medical Audiology

(4) STAFF

Prerequisite: consent of instructor.

Advanced study of aural anatomy and physiology; causes and types of hearing impairment; otological considerations; temporal bone anatomy; medical and surgical implications.

229. Etiology and Diagnosis of Disorders of the Vestibular System

(4) STAFF

Prerequisite: consent of instructor. Students who have received credit for Speech and Hearing Sciences 233 will not receive credit for this course.

Physiological acoustics; use of instruments and methods to assess physiological responses to sound: encephalography, cardiography, cochleography, etc.

230. Developmental Considerations in Phonological Disorders

(4) STAFF

Prerequisite: consent of instructor.

Description of disordered phonologic acquisition. Course will include a literature review for normal and disordered speech acquisition. Topics will include functional misarticulation, phonologic aspects of cleft palate, developmental apraxia, and dysarthria.

231. Assessment of Language

(4) STAFF

Issues and procedures for the assessment of the linguistic, cognitive, and social domains will be discussed. An emphasis on the "normal model" for the assessment of language disorders will be utilized.

232. Assessment and Intervention in Child Language

(4) STAFF

Prerequisite: consent of instructor.

Assessment and intervention issues in language will be explored. Intervention programs will be based on principles inherent to the normal and disordered language systems.

232L. Language Intervention Laboratory: Children

(1-4) STAFF

Prerequisite: consent of instructor.

The application of assessment and intervention principles in language disorders, accompanied by supervised clinical practicum; the development of clinical research questions and strategies.

233. Pragmatics of Language

(4) STAFF

Prerequisite: consent of instructor.

The social domain of language will be the focus of this course. Children's development of the pragmatic aspects of language as well as communicative competence at the adult level are discussed.

234. Management of the Hearing-Impaired Child

(4) GERBER

Prerequisite: consent of instructor.

The pediatric, otological, audiological, and educational procedures relevant to management of the hearing-impaired child from birth through the early school years.

235. Graduate Seminar in Autism

(4) STAFF

Prerequisites: consent of instructor.

Discussion of critical issues in the field of autism with emphasis on diagnosis and treatment with respect to speech, language, hearing, and behavioral disorders.

237. Neuropathologies of Language Processes

(4) STAFF

Prerequisite: consent of instructor.

Review of research regarding the effects of brain injury on language comprehension, expression, and processing; study of historical and current assessment and intervention procedures; includes aphasia, disorders produced by closed head trauma, and by right-brain injury.

237L. Language Intervention Laboratory: Adults

(1-4) STAFF

Prerequisite: consent of instructor.

Supervised clinical practicum with patients with aphasia and related disorders including cognitive retraining accompanied by discussion and related readings.

240. Disorders of Phonation
(4) STAFF
Prerequisite: consent of instructor.
Current methods of assessment and remediation of disorders of phonation in adults and children are examined. Normal voice production is reviewed, while pathological voice production is examined in detail.

240L. Voice Disorders Clinical Laboratory
(1-4) STAFF
Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.
Study of methods of assessment and treatment of varieties of voice disorders in children and adults, accompanied by supervised clinical practicum; development of research questions and strategies.

241. Speech Production
(4) STAFF
Prerequisite: Speech and Hearing Sciences 121, 122 (or equivalent background); consent of instructor.
An understanding of the speech production mechanism; theories of phonation; acoustics of various speech sounds; source-filter theory of speech production; issues in segmentation and acoustic variance; models of speech production, coarticulation and speech prosody (timing, intonation, and stress).

242. Seminar in Stuttering
(4) R. INGHAM
Prerequisite: consent of instructor.
Identification and development of stuttering behavior in children and adults; procedures for description and measurement of such behaviors; special attention to the design of treatment programs incorporating various remediation approaches including behavior modification, counseling, group treatment.

242L. Stuttering Clinical Laboratory
(1-4) STAFF
Prerequisite: consent of instructor.
In-depth discussion of the clinical literature in stuttering and laboratory exercises regarding measuring processes, assessment, and implementation of various treatment procedures for establishment, transfer, and maintenance of stutter-free speech; supervised clinical practicum; development of research questions and strategies.

243. Seminar in Child Phonology: Assessment and Treatment
(4) INGHAM J.
Prerequisite: consent of instructor.
A study of the experimental and clinical literature dealing with the measurement and treatment of phonological disorders in children. Theoretic and applied issues will be included.

243L. Phonology Clinical Laboratory
(1-4) STAFF
Prerequisite: consent of instructor. May be repeated for a maximum of 8 units.
Study of assessment and treatment issues in regard to articulatory and phonologic disorders primarily in children, accompanied by supervised clinical practicum; development of research questions and strategies.

244. Acoustic Analysis of Speech
(4) STAFF
Prerequisites: Speech and Hearing Sciences 241 or consent of instructor.
Various methods used in the acoustic analysis of speech including spectrographic and computer-based techniques, A/D, D/A, sampling, LPC, FFT, etc. Involves extensive use of computers for studying speech.

248. Generalization and Maintenance
(4) STAFF
Prerequisite: consent of instructor.
Study of the theoretical, experimental, and clinical literature pertaining to the measurement and production of treatment gains across novel settings, behaviors, and time. Special attention to procedures readily usable in clinical settings.

251. Speech Perception
(4) STAFF
Prerequisite: Speech and Hearing Sciences 241 or consent of instructor.
An understanding of speech perception with emphasis on acoustic cues in speech perception, cues for manner, place and voicing; categorical versus continuous perception; methods in the study of, and theories of speech perception; speech perception by infants and animals; neurophysiology of speech perception.

258. Psychoacoustics
(4) DANHAUER
Prerequisite: consent of instructor.
Research methods in psychological and physiological acoustics; review of significant studies in frequency amplification and duration parameters; use of instrumentation.

259. Cochlear Prostheses
(4) DANHAUER
Prerequisite: consent of instructor.
This course covers the study of cochlear function, disorders, and remediation via prostheses and instrumentation with emphasis on electrical stimulation and cochlear implants. Test protocols and their application for assessing patients' speech perceptions abilities are also covered.

262. Theoretical Aspects of Language
(4) STAFF
Prerequisite: consent of instructor.
Linguistic, cognitive, and social theories of language will be presented as well as a critical analysis of the contribution made by the various theoretical positions. The application of language theories to the field of language remediation will be presented.

288. Within-subject Experimental Research Designs
(4) J. INGHAM
Prerequisite: consent of instructor and Speech and Hearing Sciences 200.
Investigation of single-subject research designs, their internal and external validity and the kinds of questions to which they can be applied. Students will read and critique relevant research, make class presentations, and design a within-subject experiment.

290. Philosophy of Science and Communication Disorders
(4) STAFF
Prerequisite: consent of instructor.
The study of philosophy of science is presented as a description of what science is and as a model for what science ought to be. The course provides a formal structure from which our own science can be understood.

500. University Teaching in Communication Sciences and Disorders
(2) STAFF
Prerequisite: appointment as teaching assistant. May be repeated for a maximum of 12 units. No unit credit allowed toward advanced degree.
Theory of teaching communication sciences and disorders at the college level. Topics include the preparation of behavioral objectives and course syllabi, construction of tests, and grading practices. Each quarter, student will enroll under direction of faculty for whom he or she is a teaching assistant.

501. Research Seminar: Communication Sciences and Disorders
(1) STAFF
Prerequisite: Graduate standing in speech and hearing sciences; must be taken every quarter of graduate enrollment. No unit credit allowed toward advanced degree.
Discussion and criticism of current research activity.

502. Apprentice Teaching in Communication Sciences and Disorders
(4) STAFF
Prerequisite: Speech and Hearing Sciences 500 (may be taken concurrently). No unit credit allowed toward advanced degree.
Application of theory to the practices of teaching college courses in speech and hearing sciences. Students will issue assignments, conduct class discussions, prepare and deliver lectures, score tests, and assign grades under the supervision of the faculty member who is the course director.

594. Special Topics
(1-4) STAFF
Prerequisite: consent of instructor. May be repeated with a different topic for a maximum of 9 units.
Selected topics in accordance with instructors' specializations.

595. Group Studies
(3) STAFF
Prerequisite: consent of instructor. May be repeated with a different topic for a maximum of 9 units.
Critical review of research organized on a topic basis in accordance with instructors' specializations.

596. Directed Reading and Research
(2-4) STAFF
Prerequisite: consent of instructor. May be repeated for a maximum of 10 units.
Individual tutorial. A written proposal must be approved by the department chair.

597. Preparation for the Qualifying Examination
(1-4) STAFF
Prerequisite: consent of graduate adviser. No unit credit allowed toward advanced degree.
Directed group or individual preparation for the master's or doctoral qualifying examination.

598. Master's Thesis Research and Preparation
(1-12) STAFF
Prerequisite: consent of thesis adviser. No unit credit allowed toward advanced degree.
The thesis is done under the direction of the chair of a student's thesis committee.

599. Dissertation Preparation
(1-12) STAFF
Prerequisites: consent of instructor; advancement to candidacy.
This course is reserved for writing the dissertation.

Statistics and Applied Probability

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Telephone (805) 893-2129**
***Department Chair:
Sreenivasa R. Jammalamadaka***

Faculty

Girish Aras, Ph.D., Michigan State University, Assistant Professor *(statistics, segmental methods)*

Raisa Feldman, Ph.D., Technion-IIT, Assistant Professor *(Markov processes)*

Joseph Gani, D. Sc., London University, Professor *(statistics, applied probability, bio-mathematics)*

John Hsu, Ph.D., University of Wisconsin, Assistant Professor *(Bayesian inference, linear models)*

Sreenivasa R. Jammalamadaka, Ph.D., Indian Statistical Institute, Professor *(mathematical statistics, nonparametric methods, directional data)*

Jacek Leskow, Ph.D., Polish Academy of Sciences, Assistant Professor *(inference on stochastic processes)*

Mathew Penrose, Ph.D., University of Edinburgh, Assistant Professor *(probability, Brownian motion)*

Svetlozar Rachev, D.Sc., Steklov Mathematical Institute, Professor *(probability theory, stability, probability metrics)*

James B. Robertson, Ph.D., Indiana University, Professor *(probability, ergodic theory)*

Milton Sobel, Ph.D., Columbia University, Professor Emeritus

Glen Swindle, Ph.D., Cornell University, Assistant Professor *(probability, interacting particle systems)*

Yannis Yatracos, Ph.D., UC Berkeley, Associate Professor *(statistics, curve estimation)*

Undergraduate Program

Statistics is basic to quantitative research in the biological, physical, and social sciences. Because its methods are based on mathematics, it requires a firm understanding of mathematical methods as well as an appreciation of practical problems.

As preparation for entry into any of UCSB's undergraduate statistics programs, students should have completed two years of algebra and courses in plane geometry and trigonometry in high school. In the first two years of university study, students should complete the preparation requirements outlined below. These include ten courses, many of which are sequential. Thus students should begin satisfying these requirements in the first quarter of the freshman year. At the end of the second year, students should decide which of the undergraduate degrees described below is best suited to their needs and should design an upper-division program in consultation with their faculty adviser. Recommended programs for each emphasis are available from the faculty adviser.

Bachelor of Arts—Statistical Science

The B.A. in statistical science is a basic degree intended for students interested in general training in statistics and the use of statistical methods in the social and decision sciences. It is suitable as a terminal baccalaureate degree, or as preparation for advanced training in business administration, management science, or operations research.

Preparation for the major. Mathematics 3A-7B-7C or 3A-B-C; Mathematics 10A-B-C or 5A-B-C; Mathematics 8; Computer Science 10; and one course from Computer Science 11FO, 11AD, or 12. PSTAT 17 or 107 is strongly recommended. *Note: Physics 1 or 6A is prerequisite to Mathematics 5A and 5B.*

Upper-division requirements. Forty upper-division units in statistics and mathematics are required, excluding PSTAT 133A-B-C, 121A-B, and Mathematics 100A-B, 101A-B, 102A-B, 192, 193. The 40 units must include PSTAT 120A-B-C, a minimum of 16 units from PSTAT 105, 122, 123, 126, 130, 134, 140, 160A-B, and a minimum of 8 units from Mathematics 104A-B-C, 108A-B, 132A-B, 136A-B-C, and 4 units of upper-division elective coursework. (With an adviser's approval, 4 of the 40 units may be courses in subjects other than statistics, taken as part of a coherent statistics program.)

Bachelor of Science—Statistical Science

The B.S. in statistical science is a specialized statistics degree intended for students interested in the use of statistical theory and methods in the biological, physical, and technological sciences. It is suitable as a terminal baccalaureate degree, or as preparation for advanced training in actuarial statistics, applied statistics, or probability and statistics.

The B.S. in statistical science offers three possible areas of concentration: actuarial statistics, applied statistics, and probability and statistics. Completion of one of these concentrations will not be formally acknowledged on the student's official transcript or diploma.

Preparation for the major. Mathematics 3A-7B-7C or 3A-B-C; Mathematics 10A-B-C or 5A-B-C; Mathematics 8; Computer Science 10; and one course from Computer Science 11FO, 11AD or 12. PSTAT 17 or 107 is strongly recommended. *Note: Physics 1 or 6A is prerequisite to Mathematics 5A and 5B.*

Upper-division requirements. Fifty-two upper-division units in statistics and mathematics are required, excluding PSTAT 133A-B-C, 121A-B, and Mathematics 100A-B, 101A-B, 102A-B, 192, 193. The 52 units must include PSTAT 120A-B-C, 122, 126, and 8 units from Mathematics 104A-B-C, 108A-B, 111A-B-C, 118A-B-C, 132A-B, and 136A-B-C (an entire sequence is strongly recommended). Students must also complete one of the following concentrations:

Actuarial statistics concentration. Twelve units from PSTAT 171, 172A-B, 173, *and* 12 elective units of upper-division statistical courses.

Applied statistics concentration. PSTAT 130; 8 units from PSTAT 123, 140, 174, 175; 12 units of upper-division elective statistical courses.

Probability and statistics concentration. PSTAT 105 and 160A-B are required, with 12 elective units of upper-division statistical courses. Up to 4 of the 12 elective statistical units required may be chosen from courses in related departments, if approved by the major adviser as part of a coherent statistics program.

Graduate Program

Four programs are available: M.A. in Statistics—Mathematical Statistics Specialization, M.A. in Statistics—Applied Statistics Specialization, M.A. in Statistics—Operations Research Specialization, and Ph.D. in Statistics and Applied Probability. Specializations are not, however, listed on transcripts or diplomas.

In addition to departmental requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Master of Arts—Statistics

Admission

A candidate for admission must fulfill the academic requirements for graduate study and have had undergraduate coursework in linear algebra and analysis. Students who do not have credit for PSTAT 120A-B-C, or an equivalent course, will be required to take it as it is a prerequisite for required graduate courses in the program. It is also desirable for students to have had some undergraduate work in applied mathematics and/or applied statistics. In addition, students must have some basic capability in programming in FORTRAN or another appropriate computer language. When necessary, supplemental undergraduate courses may be required; they will not count toward the 42-unit course requirement described below.

Degree Requirements

Two plans are available for completing the degree: Plan 1 (thesis), and Plan 2 (examination). Candidates in both plans must complete 42 units of approved upper-division or graduate work.

Under Plan 1, students must pass a comprehensive examination in one statistics area requirement, described under the heading "Doctor of Philosophy" below, prepare an acceptable thesis under the supervision of a faculty member, and defend it before a faculty committee. A maximum of 6 of the 42 units may be in PSTAT 596.

Under Plan 2, students must pass a comprehensive examination in two statistics area requirements. Borderline cases with respect to this examination will be asked to take a subsequent oral examination on the part in which they show a deficiency.

Master of Arts—Applied Statistics Specialization

Admission

A candidate for admission must fulfill the scholarship requirements for graduate study and have had undergraduate coursework equivalent to PSTAT 120A-B-C and a basic computer science course at the level of Computer Science 10 and Computer Science 11FO. Students may be admitted who do not satisfy all requirements, but they will be asked to take supplementary undergraduate courses which will not count toward the 42-unit course requirement described below.

Degree Requirements

The requirements for the applied statistics track will be kept flexible so that joint programs of study with other departments and schools can be worked out to suit the needs of individual students. These individualized programs should form a coherent plan and are subject to the approval of the statistics faculty. Courses that have substantial overlap will not be allowed.

Candidates must complete 42 units of upper-division or graduate work approved by the graduate adviser in statistics. At least 24 of these units must be at the graduate level. They should include PSTAT 122 and 220A-B-C and at least 4 but no more than 8 units of 230. The remaining 18 to 22 units of credit may be obtained by taking any upper-division or graduate courses from the Probability and Statistics listing, excluding 107, 120A-B-C, 121A-B-C and 133A-B-C, or any of the approved courses from the other applied disciplines. The graduate adviser can supply a list of approved courses.

Students must pass a comprehensive written examination based on PSTAT 120A-B-C, 122 and 220A-B-C. Students who receive borderline grades on this examination will be asked to take a subsequent oral examination.

Master of Arts—Operations Research Specialization

Admission

A candidate for admission must fulfill the scholarship requirements for graduate study and have had undergraduate coursework equivalent to P/STAT 120A-B-C and a basic computer science course at the level of CS 10 and CS 11F0. Students may be admitted who do not satisfy all requirements, but they will be asked to take supplementary courses which will not count toward the 42-unit requirement described below.

Degree Requirements

The requirements for the operations research track will be kept flexible so that joint programs of study with the departments of computer science, economics, electrical and computer engineering, geography, and mathematics can be worked out to suit the needs of individual students. These individualized programs should form a coherent plan with a major and a minor field of study, and are subject to the approval of the faculty. Courses with a substantial overlap will not be allowed.

Candidates must complete 42 units of upper-division or graduate work approved by the graduate adviser in statistics. At least 24 of these units must be at the graduate level. They must include PSTAT 208A-B-C and at least 2, but not more than 4 units of PSTAT 209. The remaining seven courses may be drawn from current offerings in the five departments named above and in the Statistics Program. They should consist of at least four courses in a major field (no more than two in the upper division) and at least two in a minor field (no more than one in the upper division). Full details of these courses are provided in the booklet Graduate Study in Statistics and Applied Probability, available from the graduate adviser.

Students must plan a comprehensive written examination based on Math 132A-B, PSTAT 120A-B-C, and PSTAT 208A-B-C, in addition to an examination in the major field of the student's choice. Students who receive borderline grades on this examination will be asked to take a subsequent oral examination.

Doctor of Philosophy—Statistics and Applied Probability

Degree Requirements

Area Requirements. Ph.D. students in statistics will be required to fulfill three statistics and probability area requirements and a pure mathematics area requirement. Suggested courses in preparation for these examinations are available from the graduate adviser. Students are also required to be proficient in linear algebra at least to the level of Math 108A-B and will be advised to take this course if deficient.

Foreign language requirement. Students must show reading proficiency in two foreign languages, chosen from French, German, Russian, Chinese, and Japanese. As this requirement must be met before advancement to candidacy, students are advised to start preparing as soon as possible. Students can substitute the acquisition of expertise in computer programming for the study of one of the two languages, with the approval of the departmental statistics committee. The amount of work required will be equivalent to the study of a foreign language. Students who already have appropriate computing experience may be required to perform a statistical project demonstrating their knowledge.

Course requirements. Students must pass 72 units of graduate courses in statistics with grades of at least a B or S. Graduate courses in statistics from other departments may be included, but should have prior approval from the graduate adviser in statistics and/or the thesis adviser. These advanced courses should form a coherent plan and facilitate the selection of an area for dissertation research.

The student advances to candidacy by satisfactorily completing four written examinations, two foreign language examinations, and one preliminary oral examination. The student is required to complete a dissertation representing an original contribution to knowledge; the thesis is defended before a faculty committee.

The Statistical Laboratory

The Statistical Laboratory (Statlab) has been providing UCSB graduate students with statistical consulting advice since 1981. The Department of Statistics and Applied Probability is endeavoring to expand the activities of the laboratory and to establish it as an active center of statistical consulting on campus, offering a wide range of statistical computing, modelling, analysis, and forecasting services. The Statlab offers graduate students practical experience in statistical consulting while providing the UCSB campus with professional statistical services.

Statistics and Applied Probability Courses

LOWER DIVISION

SA. Statistics

(S) STAFF

Prerequisite: high school algebra. Not open for credit to students who have received credit for PSTAT 5E, 5P, 5S, 33, Economics 5, Psychology 5, or Sociology 3.

Random variables, sampling distribution, estimation hypothesis testing, correlation and regression, other topics from statistics.

5E. Statistics with Economics and Business Applications

(S) STAFF

Prerequisite: Economics 1 and 2. Not open for credit to students who have received credit for PSTAT 5A, 5P, 5S, 33, Economics 5, Psychology 5, Sociology 3 or equivalent.

An introduction to elementary statistical methods applied to the analysis of economic data. Topics will include basic probability theory, statistical inference and hypothesis testing, and regression..

SS. Introduction to Quantitative Studies for Sociologists

(S) STAFF

Prerequisite: high school algebra. Not open for credit to students who have received credit for PSTAT 5A, 5E, 5P, 33, Economics 5, Psychology 5, Sociology 3, or equivalent.

An introduction to the fundamentals of quantitative analysis to enable students to interpret findings of social research so they will be prepared for advanced coursework in sociology and able to intelligently participate as citizens in an increasingly statistically oriented society.

6H. Introductory Statistics (Honors Section)

(1) STAFF

Prerequisites: must be enrolled in PSTAT 5AA-ZZ course with a minimum grade-point average of 3.5 on a minimum of 16 graded baccalaureate units.

Descriptive methods, histograms, measures of central tendency and spread, probability, random variables, mean and variance, binomial and normal distributions, estimating with random confidence, tests of significance, inference for means and proportions, regression and confidence test of significance.

17. An Introduction to Probability

(4) STAFF

Prerequisite: Mathematics 3A (may be taken concurrently) or consent of instructor.

A systematic development of probability theory for countable sample spaces, conditional probability, independence, counting techniques, binomial distribution, random variables, expectation, and other topics such as Markov chains, Poisson distribution, and generating functions.

94. Group Studies in Statistics

(1-4) STAFF

Prerequisite: consent of instructor.

Lectures and discussions on special topics.

UPPER DIVISION

105. Introduction to Nonparametric Methods

(4) STAFF

Prerequisite: PSTAT 33 or equivalent.

An applied statistics course where we examine modern, practical (distribution-free) significance tests: permutation tests, sign tests, ranking methods. This course does not require calculus, and is designed for students in engineering, the physical, biological, and social sciences, and mathematics.

107. Discrete Probability Theory

(4) STAFF

Prerequisite: Mathematics 15 or equivalent; not open to students who have received credit for any other courses in statistics except PSTAT 5E-P-S or PSTAT 33. Especially suitable for prospective teachers.

Development of probability theory for finite sample spaces including conditional probability, independence, binomial distribution, random variables, and expectation. Experiments of drawing balls from urns and cards from a deck will be used throughout to illustrate the above mentioned concepts.

120A. Probability and Statistics

(4) STAFF

Prerequisites: Mathematics 3C or 3CM or 7C. Not open to students who have received credit for PSTAT 121A or 121B.

Concepts of probability; random variables; combinatorial probability; discrete and continuous distributions; measures of central tendency and dispersion; moment-generating functions; Chebyshev's Inequality.

120B. Probability and Statistics

(4) STAFF

Prerequisites: Mathematics 3C(CM) or 7C and a grade of C or better in PSTAT 120A.

Sampling distribution; central and other limit theorems; concepts of estimation theory for one-sample data: unbiasedness, efficiency, sufficiency, consistency of point estimators, maximum likelihood methods, moment estimator, confidence intervals; hypothesis testing.

120C. Probability and Statistics

(4) STAFF

Prerequisites: Mathematics 3C or 3CM or 7C and 8; and mathematics 5B, and a grade of C or better in PSTAT 120B.

Estimation theory for two-sample data: hypothesis testing for two independent samples, paired t test for the paired (dependent) data; goodness of fit tests, linear models, regression, and analysis of variance.

122. Design and Analysis of Experiments

(4) STAFF

Prerequisites: PSTAT 120A-B or 121A-B or consent of instructor.

Linear models; least squares theory; one-way and two-way analysis of variance; multiple comparison procedures; fixed, random, and mixed effects models; basic designs including completely randomized design, randomized blocks design, incomplete block designs, latin squares, factorial and fractional factorial designs; analysis of covariance.

123. Sampling Techniques

(4) STAFF

Prerequisite: one quarter of upper-division mathematical statistics or consent of instructor.

An elementary development of the statistical methods used to design and analyze sample surveys. Basic ideas: estimates, bias, variance, sampling and nonsampling errors; simple random sampling with and without replacement, ratio and regression estimates; stratified sampling; systematic sampling; cluster sampling; sampling with unequal probabilities, multistage sampling. Examples from various fields will be discussed to illustrate the concepts including sampling of biological populations, opinion polls, etc.

126. Regression Analysis

(4) STAFF

Prerequisites: PSTAT 120A-B or 121A-B or consent of instructor.

Linear and multiple regression, analysis of residuals, variable and model selection including stepwise regression, and analysis of covariance. Other topics may include logistic regression, probit analysis, nonlinear regression and nonparametric regression, and correlation methods.

130. Statistical Computing

(4) STAFF

Prerequisite: PSTAT 120B or 121B or 133B or equivalent.

Survey of the various computer packages available for statistical analysis including SPSS, BMD, Minitab, etc. The use of these packages in solving statistical problems will be discussed utilizing practical examples.

132C. Introduction to Operations Research

(4) STAFF

Prerequisites: Mathematics 132A-B and either PSTAT 120A or PSTAT 121A or Economics 141A. Same course as Mathematics 132C.

Review of probability; queuing theory; waiting models; birth and death processes; applications; inventory theory; Markov chains, applications, and decision models; computer simulation; component and system reliability; decision analysis; list and area searching.

133A-B-C. Introduction to Statistical Methods

(4-4-4) STAFF

Prerequisites: not open to mathematics and statistics majors. Students who have had PSTAT 5AA-ZZ or equivalent cannot receive credit for PSTAT 133A, but may be admitted into PSTAT 133B or 133C with the consent of instructor.

Basics of probability and statistics; minimum use of calculus; use of statistical packages. Topics: probability, random variables, expectation, variance, binomial, normal, and other distributions. Statistical inference, estimation and confidence intervals, testing, simple and multivariate regression, analysis of variance, nonparametric inference.

134. Sequential Analysis

(4) STAFF

Prerequisites: PSTAT 120A-B or consent of instructor.

This course will cover sequential methods and the associated statistical inference. Topics discussed will include sequential probability ratio test and its optimal properties, application to sequential testing, t-test, sequential estimation.

140. Statistics in Industry

(4) STAFF

Prerequisite: PSTAT 120A or 133A or equivalent.

Review of basic probability distributions and concepts in estimation and testing hypotheses, statistical quality control charts for the mean, standard deviation, the range, the fraction defective, and number of defects; sampling by attributes and variables; acceptance sampling, single, double, and multiple sampling plans, choice of acceptable quality level, average outgoing quality limit and lot tolerance percent defective values; Dodge-Romig and Mil-Std 105 plans; some aspects of life testing and reliability.

160A-B. Applied Stochastic Processes

(4-4) STAFF

Prerequisites: Mathematics 108A and PSTAT 120A or PSTAT 121A.

Random walks, Markov chains, Poisson processes, Markov processes; second order processes, Wiener process stochastic differential equations, optimal prediction, spectral distributions; queueing theory. Stochastic processes in reliability, stochastic models for time series.

171. Mathematics of Compound Interest

(4) STAFF

Prerequisite: Mathematics 3A-B. Not open to students who have received credit for PSTAT 182A.

Introduction to compound interest. Topics include: measurement of interest, annuities certain, varying annuities, amortization schedules, sinking funds, bonds and related securities, depreciation.

172A. Actuarial Statistics I

(4) STAFF

Prerequisite: PSTAT 120A and PSTAT 171 or consent of instructor. Not open to students who received credit for PSTAT 182B.

Probabilistic and deterministic contingency mathematics in life and health insurance, annuities, and pensions. Topics include: survival distributions and life tables, life insurance, life annuities, net premiums, net premium reserves.

172B. Actuarial Statistics II

(4) STAFF

Prerequisite: PSTAT 172A.

Net premium reserves, multiple life functions, multiple decrement models, valuation theory for pension plans, insurance models including expenses, nonforfeiture benefits and dividends.

173. Risk Theory

(4) STAFF

Prerequisite: PSTAT 120A. Not open for students who have received credit for PSTAT 182C.

Utility theory and the economics of insurance, individual risk models for a short term, collective risk models for a single period and for an extended period, applications.

174. Time Series

(4) STAFF

Prerequisite: PSTAT 120A or equivalent or consent of instructor.

Time series models: stationary and non-stationary models, seasonal time series, ARMA models: stationary, causality, calculation of ACF, PACF, Mean and ACF estimation. Barlett's formula, model estimation: Yule-Walker estimates, ML method. Identification techniques, diagnostic checking, forecasting, spectral analysis, the periodogram.

175. Survival Analysis

(4) STAFF

Prerequisite: PSTAT 120A-B or consent of instructor.

Properties of survival models, including both parametric and tabular models; methods of estimating them from both complete and incomplete samples, including the actuarial, moment and maximum likelihood estimation techniques, and the estimation of life tables from general population data.

182T. Tutorial in Actuarial Statistics

(1) STAFF

Prerequisites: upper-division standing and consent of instructor. May be repeated for credit to a maximum of 3 units.

Problem solving sessions to prepare students for the first four actuarial examinations. Topics corresponding to these examinations (general mathematics, mathematical statistics, applied statistics and mathematics, and actuarial mathematics) will be offered in different quarters.

190AA-ZZ. Special Topics in Statistics

(4) STAFF

Prerequisites: upper-division standing; an equivalent lower-division course; consent of instructor. May be repeated up to 12 units provided letter designation is different. Only 8 units of credit allowed for the major.

Information about the special topics to be presented may be obtained from the office of the Statistics Department.

193. Internship in Statistics

(1-4) STAFF

Prerequisites: upper-division standing; an equivalent lower-division course; consent of instructor. Limited to no more than 4 units total. Credit will not be given toward upper-division mathematics major requirements.

Faculty sponsored academic internship in industrial or research firms.

195. Special Topics in Statistics

(1-4) STAFF

Prerequisites: upper-division standing in statistics and consent of instructor.

Special topics of current importance in statistical sciences. Course content will vary.

199. Independent Studies in Statistics

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum grade-point average of 3.0 for the preceding three quarters; (3) have completed at least two upper-division courses in statistics. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined.

199RA. Independent Research Assistance

(1-4) STAFF

Prerequisites: Students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade-point average for the preceding three quarters; 3) have completed PSTAT 120A-B-C, and at least one other upper-division course in Probability and Statistics; 4) have consnet of instructor and department. Students are limited to 5 units per quarter and 30 units total in all 198/199/199RA courses.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

Students enrolling in graduate courses will be expected to have taken PSTAT 120A-B-C or equivalents.

207A-B-C. Statistical Theory

(4-4-4) STAFF

Prerequisites: PSTAT 120A-B-C or consent of instructor.

Univariate and multivariate distribution theory; generating functions; inequalities in statistics; order statistics, estimation theory; maximum likelihood estimation, sufficiency, Rao-Blackwell theorem; testing hypotheses; ranking and selection; sequential vs. nonsequential techniques.

208A. Principles of Programming for Operations Research

(4) STAFF

Prerequisites: Mathematics 132A-B.

Theory and computational techniques of linear programming. Duality theory and simplex methods. Network flow problems and algorithmic methods. Introduction to integer and nonlinear programming.

208B. Stochastic Models for Operations Research

(4) STAFF

Prerequisites: PSTAT 160A-B.

Principles of stochastic modeling. Queueing theory, the analysis of simple single-server queues, congestion theory. Inventory and storage models, inventory control. Markov decision processes.

208C. Statistical Methods for Operations Research

(4) STAFF

Prerequisites: PSTAT 120A-B and PSTAT 126.

Quality control, acceptance sampling plans and acceptance procedures. Reliability theory and survival analysis. Introduction to time series analysis, ARMA models. Spectral analysis.

209. Case Studies Project for Operations Research

(2-4) STAFF

Prerequisite: students must have completed at least 28 units toward their master's degree.

Real life problems will be analyzed by standard operations research methods. A model will be formulated, and relevant data collected and analyzed mathematically and computationally. A written report on the project must be submitted to complete the master's requirements.

213A-B-C. Probability Theory

(4-4-4) STAFF

Prerequisites: PSTAT 120 A-B-C and consent of instructor. Students are advised to complete Mathematics 118A-B-C in preparation for this course.

Foundations of probability, measure theory, distribution functions, characteristic functions, weak and strong laws of large numbers, weak convergence, stochastic processes, central limit theorems, martingales, stationary processes.

214A-B-C. Introduction to Stochastic Processes

(4-4-4) STAFF

Prerequisites: PSTAT 120A-B-C or consent of instructor. Students are advised to complete mathematics 118A-B-C in preparation for this course.

Random walks, renewal theory, Markov processes, branching processes, information theory.

215A-B-C. Statistical Decision Theory

(4-4-4) STAFF

Prerequisites: PSTAT 120A-B-C and consent of instructor.

A basic introductory mathematical statistics course in which statistical concepts and procedures are developed and examined from the point of view of game theory, optimization, and decision theory.

216A-B-C. Multivariate Analysis

(4-4-4) STAFF

Prerequisites: PSTAT 120A-B-C and Mathematics 108A-B.

Statistical theory associated with the multivariate normal, Wishart and related distributions, partial and multiple correlation, principal components. Hotelling's T^2-statistic, multivariate linear models, classification and discriminant analysis. Other topics may include invariance, admissibility, minimax, James-Stein estimates, multivariate probability inequalities, majorization, and Schur functions.

217A-B-C. Design of Experiments

(4-4-4) STAFF

Prerequisites: PSTAT 120A-B-C and Mathematics 108A-B, or consent of instructor.

Linear models and the analysis of variance; regression and least squares theory; contingency table analysis; method of steepest ascent; ridge regression.

219. Statistics of Life Testing and Reliability

(4) STAFF

Prerequisites: PSTAT 120A-B-C and 160A-B or consent of instructor.

Will discuss probability failure models and associated test procedures. Topics will include: parametric and nonparametric life-testing procedures, estimation of hazard rates, component and system reliability, maintenance policies, and renewal theory.

220A-B-C. Advanced Statistical Methods

(4-4-4) STAFF

Prerequisites: PSTAT 120A-B-C or consent of instructor for 220A; PSTAT 120A-B-C and 220A or consent of instructor for 220B-C.

General linear models; regression; ANOVA with missing observations; analysis of covariance; multivariate statistical methods; classification and discrimination; clustering and multidimensional scaling, categorical data analysis and loglinear models; model selection and validation, robust fits, inspection of residuals, bio-assay, survival curves.

221A-B-C. Advanced Probability Theory

(4-4-4) STAFF

Prerequisites: PSTAT 213A-B-C.

Infinitely divisible distributions, renewal theorems, extreme value theory, convergence of laws on separable metric spaces, theory of probability metrics, stability of stochastic models.

222A-B-C. Advanced Stochastic Processes

(4-4-4) STAFF

Prerequisites: PSTAT 214A-B-C.

Point processes, Markov processes with discrete and continuous parameters, martingales, stationary processes, Brownian motion, diffusion theory, potential theory, stochastic differential equations.

230. Seminar and Projects in Statistical Consulting

(4-8) STAFF

Prerequisites: PSTAT 220A-B-C which may be taken concurrently.

Students participate in the discussions and consulting projects in the statistical laboratory. They are assigned project(s) to work on, and write a report on statistical aspects of the project.

233A-B-C. Introduction to Statistical Methods

(4-4-4) STAFF

Not open to mathematics majors. Students who have had PSTAT 33 cannot receive credit for PSTAT 233A, but may be admitted into PSTAT 233B or 233C with the consent of instructor. Students will attend the same lectures as for PSTAT 133A-B-C, but will have different discussion classes and laboratories. They will be expected to complete advanced problem assignments.

This course will consider basic ideas in probability and cover important topics in statistical methods with the minimum use of calculus; it will rely on the use of personal computers. Topics: probability, random variables and distributions, expectation and variance, binomial, normal, and other probability models. Statistical tests, correlation and regression. Elementary design of experiments, analysis of variance, sampling and nonparametric statistics.

262AA-ZZ. Seminars in Probability and Statistics

(1-6) STAFF

Prerequisites: PSTAT 120A-B-C and consent of instructor. May be repeated for credit.

Topics of current research interest in probability and/or statistics, by means of lectures and informal conferences with members of staff.

274. Time Series

(4) STAFF

Prerequisite: PSTAT 120A or equivalent or consent of instructor.

Time Series models: stationary and non-stationary models, seasonal time series, ARMA models: stationary, causality, calculation of ACF, PACF, Mean and ACF estimation. Bartlett's formula, Model estimation: Yule-Walker estimates, ML method. Identification techniques, Diagnostic checking, forecasting, spectral analysis, the periodgram.

275. Survival Analysis

(4) STAFF

Prerequisite: PSTAT 120A-B or consent of instructor.

Properties of survival models, including both parametric and tabular models; methods of estimating them from both complete and incomplete samples, including the actuarial, moment and maximum likelihood estimation techniques, and the estimation of life tables from general population data.

500. Teaching Assistant Practicum

(1-4) STAFF

Prerequisite: appointment as teaching assistant. No unit credit allowed toward advanced degree.

Supervised teaching of undergraduate probability and statistics courses.

501. Teaching Assistant Training

(1-2) STAFF

Prerequisite: appointment as teaching assistant. No unit credit allowed toward advanced degree.

Consideration of ideas about the process of learning mathematics and discussion of approaches to teaching.

502. Teaching Associate Practicum

(1-5) STAFF

Prerequisite: appointment as associate. No unit credit allowed toward advanced degree.

Supervised teaching of undergraduate courses.

510. Readings for Area Examinations

(2-6) STAFF

Prerequisite: enrollment in M.A. or Ph.D. program.

596AA-ZZ. Directed Reading and Research

(1-6) STAFF

Prerequisites: graduate standing and consent of instructor. May be repeated for credit as determined by the department chair up to half the graduate units required for the M.A. degree.

598AA-ZZ. Master's Thesis Research and Preparation

(1-6) STAFF

Only for research underlying the thesis, writing the thesis. Instructor should be the chair of the student's thesis committee.

599AA-ZZ. Ph.D. Dissertation Preparation

(1-6) STAFF

Prerequisites: graduate standing and consent of instructor. Maximum of 12 units total.

Women's Studies

Women's Studies Program,
Division of Social Sciences,
South Hall 3709;
Telephone (805) 893-4330
Program Chair: Patricia Cline Cohen

Faculty

Antonia I. Castañeda, Ph.D, Stanford University, Assistant Professor *(American history, Chicana studies, gender and race of women in frontier California)*

Sarah Fenstermaker, Ph.D., Northwestern University, Professor *(work and gender, feminist inquiry, feminist theory)*

Ursula R. Mahlendorf, Ph.D., Brown University, Professor Emerita

Constance Penley, Ph.D., UC Berkeley, Associate Professor *(feminism and film theory, cultural studies)*

Judith L. Raiskin, Ph.D., Stanford University, Assistant Professor *(women's literature, colonialism, race and gender studies, sexuality)*

Advisory Committee

Kum-Kum Bhavnani, Ph.D. (Sociology)

Gayle Binion, Ph.D. (Political Science, Law and Society)

Julie Carlson, Ph.D. (English)

Antonia I. Castañeda, Ph.D. (Women's Studies, Chicano Studies)

Patricia Cline Cohen, Ph.D. (History)

Sharon A. Farmer, Ph.D. (History)

Sarah Fenstermaker, Ph.D. (Women's Studies)

Louise Fradenberg, Ph.D. (English)

Nancy Gallagher, Ph.D. (History)

Avery Gordon, Ph.D. (Sociology)

Vicki Harrison, Ph.D. (English)

Ursula R. Mahlendorf, Ph.D. (Women's Studies, German)

Constance Penley, Ph.D. (Women's Studies, Film Studies)

Judith L. Raiskin, Ph.D. (Women's Studies)

Beth E. Schneider, Ph.D. (Sociology)

Denise Segura, Ph.D. (Chicano Studies, Sociology)

Ines Talamantez, Ph.D. (Religious Studies)

Women's studies is an interdisciplinary program and major in which the varied experiences of women and the systematic study of gender may be explored. The women's studies major is designed to provide the student with the opportunity to discover the variety and richness of women's historical, cultural, and social contributions, as well as to obtain a clear understanding of the dynamics of gender, race, and class inequality as it has been experienced and struggled against by the world's women. The student seeking a B.A. in women's studies will organize a coherent program of study around either a humanities or social science emphasis. The women's studies curriculum is composed of its own core courses as well as a variety of courses elected from disciplines within the humanities and social sciences.

The women's studies curriculum is designed to complement and elaborate the aims students pursue in traditional departments. The major can form the core of an excellent liberal arts education. It can also be used as preparation for careers in management, law, social service, the arts, publishing, and teaching, and as preparation for graduate study in the social sciences, humanities, and women's studies.

After completing specific prerequisites, students with a bachelor's degree in women's studies are eligible to pursue a California teaching credential. Interested students should discuss their plans as soon as possible with the credential adviser in the Graduate School of Education.

Incoming students and prospective majors are invited to consult the women's studies faculty and staff advisers. Further descriptions of the women's studies curriculum and of major requirements are available in the program office. A list of courses offered is available each quarter, prior to registration.

Undergraduate Program

Bachelor of Arts—Women's Studies

Preparation for the major. Women's Studies 20, 30, 40, 50, and 60.

Upper-division major. Forty-four upper-division units are required, distributed as follows. Area A: Core courses: Women's Studies 100A-B, 170A-B, 196. Area B: Four courses selected from the following with no more than two courses taken from any one department: Anthropology 125; Black Studies 127; Chicano Studies 147, 155R, 155W, 167; English 114FT, 165WL; Film Studies 163; French 106X, 130X, 136X, 172; German 166; History 117C, 146WP, 159A-B-C, 159P, 159Q; Interdisciplinary 110; Law and Society 140; Philosophy 189; Religious Studies 114D; Sociology 153, 153S, 155A, 155M, 155R, 155W; Women's Studies 121, 161, 186AA-ZZ, 190, 198, 199 (Women's Studies 198 and 199 may be repeated but only 4 units of both will apply to the major; Women's Studies 190 may also be repeated, but only 4 units may be applied to the major). Area C: Two courses selected from the following (courses completed in Area B above may be used to satisfy the Area C requirement): Chicano Studies 144, 154F, 168A-B, 180, 190; Communication 126; English 114A-Z; German 137, 175; History 156A, 167C, 167CA, 167CB, 168E; Linguistics 132, 133; Psychology 139; Religious Studies 102, 110A-B; Scandinavian 137, 150A, 150D; Sociology 144, 151, 152A, 154A, 154F, 155B.

Non-Women's Studies Special Topics or Selected Topics courses, and/or courses for which the instructor varies, *may* fulfill areas B and C, depending on course content and contingent upon Women's Studies program approval.

Graduate Program

In addition to program requirements, candidates for graduate degrees must meet the university degree requirements described in the chapter "Graduate Education at UCSB."

Doctoral Emphasis — Women's Studies

The Women's Studies Program offers an interdisciplinary doctoral emphasis in cooperation with the departments of English, Germanic languages and literatures, history, and sociology. Within the doctoral emphasis, students will be directed to four women's studies graduate courses focusing on theory, epistemology, and topics related to the student's own research. Faculty affiliated with the women's studies doctoral emphasis will serve on the student's Ph.D. oral examination and dissertation committee.

Students already enrolled in one of the participating departments may petition to add the doctoral emphasis by applying directly to the Women's Studies Program. Applicants may be at any stage of their Ph.D. work.

Women's Studies Courses

A list of women's studies courses with descriptions will be available before the beginning of each quarter, as close to the start of registration as possible. Students are urged to consult this list before registering.

LOWER DIVISION

20. Women in Western Societies
(4) STAFF

Introduction to basic concepts and approaches of women's studies within the social sciences. An extensive range of topics and analytic frameworks will be explored to understand the status of women in western societies.

30. Women's Struggles in Africa, Asia, and Latin America
(4) STAFF

An exploration of the impact of colonialism and underdevelopment on women's lives in Africa, the Middle East, Latin America, and Asia. Primary focus is on the economic division of labor, women and development, and women's role in liberation struggles.

40. Issues in the Humanities
(4) STAFF

This class will introduce students to central feminist questions raised in a variety of fields in the humanities, including literature, language, art and religion. Readings will explore the representation of women in American society and the diversity of women's experience.

50. Women, Agency and Culture
(4) STAFF

Focus on women's creativity as well as cultural and spiritual traditions. Women's role in creating historical and contemporary culture and the relationship of women's literacy and artistic contributions to diverse cultural contexts will be explored.

60. Women of Color in the United States: Struggles and Resistance
(4) CASTANEDA

This course examines the interlocking dynamics and politics of gender, race, sexuality, class, and culture in the experience of U.S. women of color. Readins focus on oppositional consciousness and resistance to oppression in the scholarship and literature by womenof color.

UPPER DIVISION

100A. Feminist Perspectives on Western Social Thought
(4) STAFF
Prerequisites: Women's Studies 20 or 30; and 40 or 50.

Critical reading and analysis of gender relations and the place of women in major intellectual traditions. Texts will be drawn from Plato, Rousseau, Wollstonecraft, Mill, Marx, Freud, and de Beauvoir, among others.

100B. Contemporary Feminist Theory
(4) STAFF
Prerequisite: completion of Women's Studies 100A.

Examination and analysis of major works of feminist theory since de Beauvoir.

121. Chicana History: Gender, Race, Culture, Class, and Sexuality in Mexican America
(4) CASTANEDA
Prerequisite: upper division standing or consent of instructor.

This course examines the major issues in Chicana history within the context of the historical development of the region of Northern Mexico now known as the U.S. West and Southwest.

161. The Social Construction of Sexuality
(4) RAISKIN
Prerequisite: one lower division women's studies course, or one course from the Women's Studies area "B" list.

This course explores how sexuality is shaped, controlled and defined by social and cultural forces in England and the U.S. By using historical and literary sources we will examine the variable understanding of human sexuality in the last two centuries.

170A-B. Women and the Nature of Inquiry

(4-4) STAFF

Prerequisite: Women's Studies 100A. Women's Studies 170 is a two-quarter in-progress sequence course with grades for both quarters issued upon completion of the final quarter.

A two-quarter research seminar. The first quarter will explore and critique the epistemological foundation and methodological approaches from a variety of disciplines. In the second quarter students will conduct, complete and present an independent research project.

186AA-ZZ. Selected Topics in Women's Studies

(4) STAFF

Prerequisite: upper-division standing. Course may be repeated for credit for a maximum of 12 units and up to 8 units of credit may be applied to the major providing letter designations are different.

Lectures in special areas of interest in contemporary women's studies. Consult the program office regarding proposed course topics.

190. Women's Community Organization

(2-4) STAFF

Prerequisites: upper-division standing; women's studies majors only; consent of instructor and chair; student written proposal required. A maximum of 4 units may be applied to the major.

Combines independent service in an organization serving the women's community with reflection and analysis under the supervision of a faculty member. Students will conduct observations and write a term paper. Readings relevant to the internship experience are required.

196. Senior Seminar

(4) STAFF

Prerequisites: Women's Studies 100A, 100B, and 170A (formerly 195A). Open to women's studies majors only. May be repeated for credit to a maximum of 8 units, if instructor and topic are different.

A senior seminar intended for majors in their senior year that permits some analytic synthesis across themes in women's studies. Topics will vary with instructor.

198. Readings in Women's Studies

(1-4) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in women's studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students may apply a maximum of 4 units of 198/199 courses combined to the major.

Directed readings in women's studies under the guidance of a faculty member in the program. Students wishing to enroll should prepare a short written plan of study.

199. Independent Studies in Women's Studies

(1-4) STAFF

Prerequisites: Students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in women's studies. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Students may apply a maximum of 4 units of 198/199 courses combined to the major.

Independent research and writing under the guidance of a faculty member in the program. Students wishing to enroll should prepare a short written plan of study.

GRADUATE COURSES

222. Women in Frontier California, 1770-1900: Gender, Race, Class and Sexuality

(4) CASTANEDA

Prerequisite: graduate standing.

This seminar examines the issues of gender, race, culture, class and sexuality in nineteenth century California as this area passed from Spanish, to Mexican to Anglo North American rule.

270. Issues in Feminist Epistemology

(4) FENSTERMAKER, MAHLENDORF

Acquaints students with the scope and range of feminist epistemological critiques across disciplines and pursues issues relevant to problematizing the knowledge seeking, such as theories of agency rooted in gender, race, class, and sexuality.

280. Research Practicum

(4) STAFF

Prerequisite: Women's Studies 270.

A cross-disciplinary seminar in which fundamental questions in contemporary feminist research practice are considered in light of students own graduate projects. As students read and critique each others' work, issues specific to Women's Studies research and teaching will be discussed.

501. Apprentice Teaching in Women's Studies

(4) STAFF

Prerequisite: teaching assistant or associate status; may be repeated for credit.

Students will receive will receive faculty supervision as they lead discussion sections, assist in the preparation and evaluation of exams, and advise on written assignments. Attention will be given to the challenges posed by multidisciplinary materials and perspectives. Weekly meetings with instructor required.

594AA-ZZ. Special Topics in Women's Studies

(4) STAFF

Prerequisites: consent of instructor; current graduate enrollment; may be repeated for credit with approval of program chair.

Special seminar on research topics of current interest.

596AA-ZZ. Directed Readings and Research

(2-8) STAFF

Prerequisites: consent of instructor, current graduate enrollment; may be repeated for credit with approval of program chair.

Individual tutorial relevant to M.A. or Ph.D. projects. Plan of study must be approved by program chair.

Writing Program

1719 South Hall;
Telephone (805) 893-2613

See the Department of English entry in this catalog for a listing of courses satisfying the Subject A and General Education Area A requirements, as well as courses offered under the Interdisciplinary Writing Program and Program of Intensive English. Contact the Writing Program for examination dates, schedule of classes, and further information.

Graduate School of Education

Graduate School of Education, Phelps Hall 1190
Academic Adviser, (805) 893-2137
Credential Adviser, (805) 893-2084
Dean: Richard J. Shavelson
Assistant Dean: Carol N. Dixon
Chair, Department of Education: Priscilla A. Drum
Director, Teacher Education Program: Jon D. Snyder

The Graduate School of Education offers both graduate degree programs and practitioner credentials. Advanced degrees are offered in Counseling/Clinical/School Psychology, Educational Psychology, Educational Leadership and Organizations, and Special Education. State of California-approved practitioner credentials include Initial Multiple Subject (elementary) and Multiple Subject with Bilingual Emphasis in Spanish; Single Subject (secondary) in English, Life Science, Mathematics, Physical and Social Science. Advanced specialist credentials are offered in Reading/Language Arts, Learning Handicapped and Severely Handicapped. Approved service credentials are offered in Preliminary Administrative, Professional Administrative, and Pupil Personnel Services: School Psychology. A complete list of degrees and programs offered in the Graduate School of Education appears in the first chapter of this catalog. (See "University of California, Santa Barbara"). Program offerings are subject to available funding.

Advising. The academic adviser offers assistance to all master's and doctoral candidates. The GSE credential adviser provides information to prospective applicants and students in the credential emphases. Candidates who are pursuing both a credential and an advanced degree will need to consult with both the academic adviser as well as the credential adviser. Advanced credential applicants may be considered for any degree program in the Department of Education in addition to the credential emphasis they are applying for.

Applicants to the teaching credential emphases should contact the Teacher Education Office (805) 893-2084 for information about pre-credential advising meetings for prospective elementary and secondary teachers. Those interested in other emphases should write to the academic adviser or to the degree program emphasis they are most interested in.

Research and Training Facilities. Graduate research and training opportunities are provided by means of on-campus facilities as well as federally and state funded research grants. Clinical training is also offered through the Reading Clinic and the Ray E. Hosford Counseling Clinic. A quantitative laboratory for statistical analysis as well as multimedia resources and hardware are available for research and training.

The Department of Education—Master's Degree Programs

The Department of Education offers the Master of Arts in Education and the Master of Education degrees. The masters degree programs are designed to enhance the academic and research competencies of experienced elementary or secondary school teachers and other educational leaders. Previous teaching experience is not required for all programs. Applicants to the master's program must apply to one of the specific emphases: School Psychology, Educational Psychology, Educational Leadership and Organizations, and Special Education.

Prerequisites. Candidates must hold a bachelor's degree or equivalent from an accredited institution and satisfy the requirements of the UCSB Graduate Division. Some emphases require possession of a California teaching credential or its equivalent, and may require teaching or other appropriate experience.

Admission. Application materials are available from the Graduate School of Education Academic Adviser and will be considered up to the cutoff date established by the Graduate Division (May 1 for fall quarter), except for Counseling/Clinical/School Psychology which has a January 2 deadline.

Those who wish to be considered for fellowships must file completed applications by January 15, except for Counseling/Clinical/School Psychology which has a January 2 deadline.

Master's program applicants are required to submit an application package, detailed statement of purpose, letters of recommendation, and test scores from the Graduate Record Examination. In some cases, results from the Miller's Analogies Test will be accepted. Test scores must be no more than five years old. An interview and submission of additional information may be required.

Degree Requirements. After completion of coursework, candidates are expected to take a final comprehensive examination or to complete a thesis. There is no language requirement for all candidates, however, when advisers deem it suitable for a candidate's field of study, they will require an appropriate level of foreign language competency.

Note: Advanced credentials may be pursued in addition to the master's in any of our emphases.

Counseling/Clinical/School Psychology

School Psychology. This specialization emphasizes the implications of research findings in psychology and education for psychological services in school settings. The School Psychologist is viewed as pivotal in the provision of comprehensive support services to teachers, students, and parents. Comprehensive support service includes prevention, assessment, and intervention programs for all children. A primary objective to the specialization is to train school psychologists to enhance the learning and development of students and to assist those who are at-risk or in need of special education services. Students may petition during their third quarter of residency, to pursue courses leading to the Pupil Personnel Services Credential: School Psychology.

Applications are considered for fall quarter entrance only. Submission of a completed background questionnaire (sent with application materials) is required in addition to the normative application materials. Interviews are scheduled for qualified applicants whose file is complete and who background and experience meet admission standards. For those unable to attend an interview due to excessive distance, additional materials or a telephone interview may be arranged.

Educational Leadership and Organizations

The Educational Leadership and Organizations emphasis (ELO) offers courses of study which may lead to the MA and/or Ph.D., and the Preliminary and Professional Administrative Services Credential. With the approval and guidance of faculty members, and within certain broad constraints, students may tailor their course of study to their individual goals. Specific requirements are currently being developed by the ELO faculty and may be used as a guideline for courses of study.

ELO is designed to prepare practitioners from schools and other organizations as well as researchers to create and use research to improve the practice of educational leadership. ELO uses the tension between the creation and use of theory to build a richly diverse learning environment. The result is practitioner leaders who have acquired the research skills to inquire into their own practice and leaders in research whose work confronts the reality of practice. The combination allows research to be tested by practice and practice by research.

Educational Psychology

The four master's specialties in the Educational Psychology program are Human Development and Disability; Language, Culture, and Literacy; and Teaching and Learning.

Human Development and Disability. One master's strand is offered for those who plan to finish the MA and continue a professional career and another for those who are planning to pursue the Ph.D. This specialty provides a master's degree in Early Childhood Education with specializations in either Disability or Normal Development. Core requirements include coursework taken in child development, clinical interviewing techniques, appropriate community experience, a research practicum, and a field project.

Language, Culture and Literacy: Cross-Cultural Education. The goal of the program is to train educational leaders in the education of linguistic minorities.

Language, Culture, and Literacy: Reading. The Reading specialty focuses on the training of instructional leaders in developmental and remedial reading in both clinics and the classroom. Students who enroll in the Reading emphasis may also pursue the Reading Specialist credential.

Teaching and Learning: Instruction. This specialty is designed to complement knowledge and skills in advanced teaching and learning.

Special Education

The Master of Arts through courses emphasizing research methods and theoretical foundations of special education serves as a prerequisite to entry into the doctoral degree program that is designed to meet the needs of special education professionals for updating and expanding their knowledge of the field.

Students who obtain a LH or SH credential may with the addition of a field-based project also obtain the M.Ed. Degree in Special Education. The credential may be pursued along with a masters in other programs offered by the Department of Education.

Department of Education—Doctoral Degrees

The Department of Education offers two doctoral degrees, the Doctor of Philosophy in Education, and the Doctor of Philosophy in Counseling/Clincial/School Psychology. The Ph.D. programs prepare highly capable individuals to perform as scholars and skilled professionals in their chosen fields. Applicants may be admitted to the Counseling/Clinical/School Psychology, Educational Psychology, Educational Leadership and Organizations, or Special Education program. Doctoral work emphasizing comparative or international education may be pursued as part of the concentration in any of the existing Ph.D. areas.

Admissions. Applications may be obtained from the GSE Academic Adviser and must be returned by the cutoff date established by Graduate Division (May 1 for fall quarter) except for Counseling/Clinical/School Psychology which has a January 2 deadline. Candidates must fulfill the general requirements for admission to graduate status, and submit a report of performance on the Graduate Record Exams. In some cases, results from the Miller's Analogies Test will be accepted. Test scores must be no more than five years old. Applicants are required to submit letters of recommendation, a statement of purpose and description of proposed doctoral study.

Degree Requirements. No specific total number of course units is prescribed. Particular requirements will be made by faculty advisers in cases where students need specialized skills in foreign language or other areas.

Residence Requirements. The minimum residence requirement of the Ph.D. degree is two years. Students in doctoral programs will spend at least six quarters in residence pursuing a program of full-time study and research. Three consecutive quarters of residency must be completed in regular sessions before advancement to candidacy. Exceptions to this may be granted only by the Graduate Division.

Counseling/Clinical/School Psychology. The UCSB Counseling/Clinical/School Psychology program has maintained full approval as a Counseling Psychology program by the American Psychological Association (APA) since 1981. In 1991, APA designation and approval was changed to Combined Scientific-Professional Psychology. The program now offers specialty tracks in clinical, counseling and school psychology emphasizing shared knowledge bases and core skills. During the first year, students take a set of courses that are designed to provide basic preparation in these common domains. Beginning in the second year and increasingly thereafter, each student selects courses which comprise a specialization in either counseling, clinical or school psychology. Interviews may be scheduled for qualified applicants who meet admission criteria and have interests well suited to faculty interests. Alternatives to the interview may be arranged for those unable to attend due to excessive distance.

Educational Leadership and Organizations. The Educational Leadership and Organizations emphasis (ELO) offers courses of study which may lead to the MA and/or Ph.D. and the Preliminary and Professional Administrative Services Credential. With the approval and guidance of faculty members, and within certain broad constraints, students may tailor their course of study to their individual goals. Specific course requirements are currently being developed by the ELO faculty and may be used as a guideline for courses of study.

ELO is designed to prepare practitioners from schools and other organizations as well as researchers to create and use research to improve the practice of educational leadership.

ELO uses the tension between the creation and use of theory to build a richly diverse learning environment. The result is practitioner leaders who have acquired the research skills to inquire into their own practice and leaders in research whose work confronts the reality of practice. The combination allows research to be tested by practice and practice by research.

Educational Psychology. The Educational Psychology doctoral emphasis offers concentrations in four specialties: Development and Disability; Language, Culture, and Literacy; Research Methodology; and Teaching and Learning.

Human Development and Disability. Students take a common core of classes which provide a base in developmental, behavioral and psycho-social theory and may then choose to pursue one or both of the following: 1) Developmental, emphasizing the application of developmental theory to educational and family contexts, and 2) Disability, which emphasizes the development of atypical children within educational and family contexts.

Language, Culture, and Literacy. This specialty focuses on issues of language, culture and literacy in formal and informal settings from a variety of perspectives including cross-cultural, social, cognitive, and linguistic.

Research Methodology. This specialty serves as both a doctoral training emphasis as well as a service unit within the Department of Education. Doctoral training provides specialization in quantitative or qualitative methods.

Teaching and Learning. The education of researchers and practitioners interested in the understanding and improvement of the teaching and learning process of diverse student populations is the focus of this specialty.

Special Education. The Special Education doctoral emphasis provides advanced training for professional leadership in the education of children and youth with disabilities. It emphasizes preparation of students who have strong research interests and competencies related to public policy issues concerning the education of students with disabilities. Graduates are expected to have the necessary substantive and methodological training and experience to serve in positions with major university special education programs, as well as positions within local, state and federal education agencies. In addition to specific scholarly specializations within the Special Education program, doctoral students are expected to complete a minor in a related field of education and appropriate cognate work in other departments of the university. The emphasis requires research practica, internship, and a dissertation. Students admitted to the Ph.D. program who do not already have a master's degree are expected to complete all the requirements for the MA degree, including a thesis or its equivalent. Applicants must have an interview with a special education faculty member.

International/Comparative Education Component

The International/Comparative Education component assumes a supporting role for the Department of Education's other doctoral emphases. Students enrolled in any of these emphases can investigate issues related to their primary emphasis in the context of one developing nation or one region of the world that contains a number of such nations.

Faculty expertise in the GSE determines that the International/Comparative component may focus geographically on Latin America and developing nations that border the Pacific Ocean, including countries of Southeast Asia, the Pacific Island, and East Asia.

Graduate School of Education—Credentials

Teaching Credentials:

- Multiple Subject (elementary) Teaching Credential
- Multiple Subject Teaching Credential with Cross-Cultural Emphasis: Spanish
- Single Subject (secondary)
  - Teaching Credentials in English, Life Science, Mathematics, Physical Science and Social Science.

Specialist Credentials:

- Reading/Language Arts
- Learning Handicapped
- Severely Handicapped

Services Credentials:

- Preliminary Administrative
- Professional Administrative
- Pupil Personnel Services: School Psychology

Teaching Credentials

The Graduate School of Education offers programs leading to recommendation for the Multiple Subject (elementary), including Bilingual Cross-Cultural Emphasis (Spanish) or the Single Subject (secondary) teaching credential in English, Life Science, Mathematics, Physical Science and Social Science.

By California law, all teaching credentials require a minimum of one year of graduate work. An undergraduate student seeking a teaching credential from UCSB normally enters an undergraduate program to complete work for the baccalaureate degree before applying for admission to a teaching credential program. UCSB offers a large number of undergraduate majors for appropriate preparation for teaching at the elementary and secondary school levels.

The professional preparation occurs during a post-baccalaureate year with teaching credential programs beginning only in the fall. The program consists of a year long, three quarter sequence of professional courses integrated with field experience at the local schools. In addition to meeting the usual university standards of scholarship, candidates must clearly demonstrate their teaching aptitude.

Advising

The Graduate School of Education credential adviser provides information to prospective applicants and to students in the credential programs. Those interested in pursuing a teaching credential at UCSB should contact the credential adviser as soon as they begin to consider the teaching profession. Information about pre-credential advising meetings for prospective elementary or secondary teachers may be obtained from the Teacher Education Office at (805) 893-2084.

Admissions. Candidates must hold a bachelor's degree and satisfy the requirements of the UCSB Graduate Division. Applications for admission to the Multiple Subject and Single Subject credential programs may be obtained from the Teacher Education Office and must be submitted by March 1. Applicants are required to submit an application package, detailed statement of purpose, and letters of recommendation. The program accepts applications for fall quarter entrance only. Consideration is given to those with evidence of potential for success in teaching and who meet the standards for graduate work. **March 1 is an administrative deadline and programs may fill prior to that date.** Candidates are advised to apply well in advance and to contact the credential adviser to discuss admission and requirements.

Prerequisites. Credential program applicants must take Education 109S (Health Education) and English 106 (Writing of Nonfictional Prose). English 106 is not required for those entering the Single Subject Program in English. In addition, Mathematics 100A-B (Mathematics for Elementary Teaching) is required for Multiple Subject applicants. Education 125 (Social Foundations of Education) and Education 175 (Contemporary Special Education) are strongly recommended for both the Multiple Subject and Single Subject programs. All prerequisites must be completed with a passing grade of C or better. Students are encouraged to complete the appropriate Single Subject Waiver (secondary) program or the Multiple Subject Waiver (elementary) program, or to pass the appropriate state examination. Applicants are also expected to have prior experience with children or young adults in a teaching setting. Applicants who complete the baccalaureate at other institutions must have substantially the same general educational background and preparation in a major teaching field. Deficiencies must be completed prior to admission to student teaching.

CBEST. Before beginning the credential year, candidates for teaching credential programs are required to attain passing test scores on the California Basic Education Skills Test.

U.S. Constitution. A three quarter unit course or approved examination covering the provisions and principles of the United States Constitution is required. At UCSB, Political Science 12 or Political Science 100 fulfills this requirement. Appropriate equivalent coursework may be substituted pending approval by the Teacher Education Office.

Scholarship. Students who are admitted to credential programs must maintain a minimum grade-point average of 3.0 (B) in all upper-division and graduate courses. Students who fail to do so may be subject to dismissal from the program.

The Multiple Subject Teaching Credential. Verification of subject-matter competency in the subjects taught at the elementary level is required. This is achieved by completion as an undergraduate of the Multiple Subject Preparation Program at UCSB or by attainment of passing scores on the Multiple Subject Assessment for Teachers.

The Single Subject Teaching Credential. Verification of subject-matter competency in the teaching field is required. Completion as an undergraduate of a Single Subject Waiver program in the chosen teaching field or by attainment of passing NTE and CAPA scores in the subject to be taught satisfies this requirement.

For additional information about the teaching credential programs offered at UCSB, contact the Teacher Education Office at (805) 893-2084.

Specialist Credentials

Learning Handicapped and/or Severely Handicapped Credential. The Learning and/or Severely Handicapped Specialist Credentials are geared to the development of knowledge and skills necessary for assessment, instruction, and social accommodation of handicapped pupils in a variety of educational settings.

Reading/Language Arts Credential. This specialist credential prepares individuals to work in elementary and/or secondary schools as Reading/Language Arts Specialists. Advanced diagnostic, instructional and evaluation experiences are provided. Study proceeds from the perspective that all aspects of the language arts must be developed simultaneously through a curriculum and teaching strategies which as closely as possible mirror the real world of learning. Students enrolled in the Reading/Language Arts Specialist credential can simultaneously complete the requirements for the Master of Arts degree in Reading.

Service Credentials

Preliminary and Professional Administrative Credential. The Administrative Services Credential programs are designed to train administrators to be responsive to the challenges which confront California education. They utilize the strengths of a major research university by exposing candidates to topics in classic theory and current research, and to ground that research and theory in the problems of practice.

Pupil Personnel Services Credential: School Psychology. The School Psychology Specialization is committed to a scientist-practitioner model of training in school psychology with emphasis on the role of school psychologists as highly qualified practitioners and also as leaders/innovators in comprehensive support services to schools.

For additional information on the Specialists or Services Credentials, contact the Graduate School of Education Credential Adviser at (805) 893-2036.

Education

Faculty

Donald R. Atkinson, Ph.D., University of Wisconsin, Madison, Professor (*counseling/clinical/school psychology*)

Larry E. Beutler, Ph. D., University of Nebraska, Professor (*counseling /clinical/school psychology; psychology*)

James H. Block, Ph.D., University of Chicago, Professor (*educational psychology*)

Mary E. Brenner, Ph.D., UC Irvine, Assistant Professor (*educational psychology*)

Norman J. Boyan, Ed.D., Harvard University, Professor Emeritus

George I. Brown, Ed.D., Harvard University, Professor Emeritus

Michael T. Brown, Ph.D. Southern Illinois University, Carbondale, Associate Professor (*Counseling/clinical/school psychology*)

J. Manuel Casas, Ph.D., Stanford University, Professor (*counseling/clinical/school psychology*)

Jenny Cook-Gumperz, Ph.D., University of London, Professor (*educational psychology*)

Willis D. Copeland, Ph.D., University of Notre Dame, Professor (*educational psychology*)

Merith Cosden, Ph.D., University of New Mexico, Associate Professor, (*counseling/clinical/school psychology, educational psychology*)

John W. Cotton, Ph.D., Indiana University, Professor Emeritus

Carol N. Dixon, Ph.D., University of Delaware, Senior Lecturer with Security of Employment (*educational psychology*)

Priscilla A. Drum, Ph.D., Stanford University, Professor (*educational psychology*)

Richard P. Duran, Ph.D., UC Berkeley, Associate Professor (*educational psychology; psychology*)

Noah E. Friedkin, Ph.D., University of Chicago, Professor (*educational policy, organization and leadership, sociology*)

Michael J. Furlong, Ph.D. University of California, Santa Barbara, Associate Professor, (*counseling/clinical/school psychology*)

Michael M. Gerber, Ph.D., University of Virginia, Charlottesville, Professor (*special education*)

Naftaly S. Glasman, Ph.D., UC Berkeley, Professor (*educational policy, organization and leadership, political science*)

Judith L. Green, Ph. D., University of California, Berkeley, Professor (*educational psychology*)

Chester W. Harris, Ph.D., University of Chicago, Professor Emeritus

Cynthia Hudley-Paul, Ph.D., UC Los Angeles, Assistant Professor (*educational psychology*)

Laurence Iannaccone, Ed.D., Teachers College, Columbia University, Professor (*educational, policy, organization and leadership, confluent education*)

Elizabeth Irish, Ed.D., Stanford University, Professor Emeritus

Sang-Jin Kang. Ph.D., Michigan State University, Assistant Professor (*educational psychology*)

Robert Koegel, Ph.D., UC Los Angeles, Professor (*counseling/clinical/school psychology, educational psychology; speech*)

Reynold F. Macías, Ph.D., Georgetown Univeristy, Professor (*educational psychology*)

Lorraine McDonnell, Ph.D., Stanford University, Professor (*educational policy organization and leadership; political science*)

Ernest D. Michael, Ph.D., University of Illinois, Professor Emeritus

Gale Morrison, Ph.D., UC Riverside, Associate Professor (*counseling/clinical/school psychology; educational psychology*)

Ralph K. Nair, Ed.D., University of Missouri, Professor Emeritus

Yukari Okamoto, Ph.D., Stanford University, Assistant Professor (*educational psychology*)

Russell W. Rumberger, Ph.D., Stanford University, Associate Professor (*educational policy, organization and leadership*)

Kermit A. Seefeld, Ed.D., Stanford University, Professor Emeritus

Melvyn I. Semmel, Ed.D., Peabody College, Vanderbilt University, Professor (*special education*)

Stewart B. Shapiro, Ph.D., University of Southern California, Professor Emeritus

Richard J. Shavelson, Ph.D., Stanford University, Professor (*educational psychology*)

Jon D. Snyder, Ed.D., Teachers College, Columbia University, Lecturer with Potential Security of Employment (*teacher education*)

R. Murray Thomas, Ph.D., Stanford University, Professor Emeritus

Marta Valdez-Menchaca, Ph.D., State University of New York, Stony Brook, Assistant Professor (*educational psychology, special education*)

John A.R. Wilson, Ed.D., Oregon State University, Professor Emeritus

Nolan Zane, Ph.D., University of Washington, Assistant Professor, (*counseling/clinical/school psychology; Asian American studies*)

Jules M. Zimmer, Ed.D., Arizona State University, Professor (*educational psychology*)

Affiliated Faculty

Sheridan Blau, Ph.D. (English)

Richard Mayer, Ph.D. (Psychology)

Barbara S. Uehling, Ph.D. (UCSB Chancellor; Psychology)

Julian Weissglass, Ph.D. (Mathematics)

Education Courses

Note: A lab fee may be required for some courses.

UPPER DIVISION

109S. Health Education

(3) STAFF

Prerequisite: upper-division standing. Must have applied to the UCSB Credential Program (except when registering through Summer Sessions).

Lecturers will introduce physiological, psychological and sociological factors that promote health and prevent disease including alcohol, narcotic, drug, and tobacco abuse; nutrition; chronic and infectious diseases; reproductive health; and stress management. General educational applications will be presented in discussion sections.

109SS. Health Education

(3) STAFF

Topics will include physiological, psychological, and sociological factors that promote health and prevent disease including alcohol, narcotics, drugs, and tobacco abuse; nutrition; chronic and infectious diseaes; reproductive health; and stress management. General educational applications will be presented in discussion sections. (Offered in Summer Session only)

121. Techniques of Field Observation in School Settings

(2) STAFF

Prerequisites: prior experience in working with elementary or secondary ages in school settings with pre-professional volunteer track for at least one quarter. Junior or senior standing required. Consent of instructor.

Consideration of methods for observation and interpretation of teaching/learning behaviors in elementary and secondary classrooms. Emphasis will be placed on utilizing observational techniques to develop an integrated knowledge of classroom phenomena.

122. Practicum in Field Observation in School Settings

(1) STAFF

Prerequisites: enrollment in or completion of Education 121. Course may be taken three times for 1 unit per quarter with the provision it has been taken once with Education 121. Junior or senior standing required.

This course provides undergraduate students an opportunity to experience the real world of teaching, to examine themselves in the role of potential teacher, to develop first hand knowledge of the school environment, and to render service.

125. Social Foundations of Education

(3) STAFF

Prerequisite: consent of instructor. Must have applied to the UCSB Credential Program.

A study of the relationship between school and society. Social and political influences on education historically and currently will be examined. Schools as complex organizations with unique roles will be studied.

164. Introduction to Educational and Vocational Guidance

(3) STAFF

Prerequisite: upper-division standing or consent of instructor.

An overview of the theories and concepts involved in career decision-making. Develop working knowledge of career information and field survey techniques for understanding the job market in relation to economic trends.

165. Introduction to Counseling Psychology

(3) STAFF

Prerequisite: upper-division standing. The lab for this course, Education 165L, is optional.

This course is designed for those considering or beginning counseling psychology as a career. The scientific and clinical aspects of the field, along with the historical development and new directions in counseling psychology, will be covered.

165L. Introduction to Counseling Psychology Laboratory

(1) STAFF

Prerequisites: upper-division standing. Concurrent enrollment in Education 165 required. Optional laboratory course for Education 165.

173. Introduction to Leadership Development in Student Personnel

(4) STAFF

Prerequisite: upper-division standing.

This course is an overview of theoretical constructs and practical applications of leadership as applied to student personnel. Through lectures, readings, discussions, and projects, the course will assist students in developing individual approaches to effective student personnel leadership.

175. Contemporary Special Education

(4) STAFF

Prerequisite: junior or senior standing required.

A course in special education for undergraduate students and other non-majors covering the nature and needs of the handicapped pupil, special education programs and methods, contemporary social, legal, and educational issues.

175C. Contemporary Special Education

(4) STAFF

Prerequisite: upper-division standing. This course is the same as Education 175, but is taught via computer with accompanying discussion sections.

A computer-based survey of contemporary special education. Covers the psychology and education of handicapped children and young adults, school programs and educational methods, and contemporary social, legal, and educational policy issues. Knowledge of computers is not required.

176A. Practicum in Special Education

(2-4) STAFF

Prerequisites: upper-division standing, and enrollment in or completion of Education 175. May be repeated for a maximum of 12 units.

This course provides students with an opportunity for direct and guided experience in programs for the handicapped. Students are placed in public school and private agency programs in the community. Seminars emphasize special education service delivery systems and professional roles and careers in the field.

176B. Practicum in Individual Differences

(2-4) STAFF

Prerequisites: Education 175; upper-division standing. May be repeated for a maximum of 12 units.

Students work with individuals enrolled in the Educational Clinic of the Laboratory for Research in Individual Differences. Students develop skills in using behavior management and microcomputer technology for remediating learning problems in mathematics, reading, and language development.

199. Independent Studies

(1-5) STAFF

Prerequisites: students must (1) have attained upper-division standing; (2) have a minimum 3.0 grade-point average for the preceding three quarters; (3) have completed at least two upper-division courses in education. Students are limited to 5 units per quarter and 30 units total in all 198/199 courses combined. Open only to advanced students approved by the department chair.

Study of special problems in various fields of education.

199RA. Independent Research Assistance

(1-5) STAFF

Prerequisites: students must 1) have attained upper-division standing; 2) have a minimum 3.0 grade point average for the preceding three quarters; 3) have completed at least two upper-division courses; 4) have consent of instructor and department.

Coursework shall consist of faculty supervised research assistance.

GRADUATE COURSES

200. Research Methods in Education

(4) STAFF

Basic principles of scientific method exemplified by qualitative and quantitative research methods.

201. Seminar: Models, Processes, and Inquiry Modes in Research

(4) STAFF

Prerequisite: consent of instructor.

An introduction to disciplined scientific inquiry; appropriate for all students interested in original research. Examines philosophical basis of knowledge, structure of science, and application. Special focus on theory and theory testing, theory building.

202A. Language Development

(4) DRUM, VALDEZ-MENCHACA

Prerequisite: consent of instructor. Same course as Psychology 236.

This course describes theoretical and empirical accounts of the knowledge representations and psychological processes underlying language comprehension and production. Representative topics include discourse processing; conversational interaction; memory for words, sentences, and text; metalinguistic skills, language development, and second-language learning.

202B. Learning to Read and Learning from Reading

(4) DRUM

Research on acquisition of literacy and content learning in schools is examined from an information processing analyses of texts, characteristics of instruction, and individual differences within the learner.

203A. Foundations of Education

(3) KOK

Prerequisite: admission to Single Subject Credential Program.

The application of psychological principles to the educative process, personality, and assessment. Other topics include discipline, design of instruction, and adolescent behavior and development.

203D. Applications of Computers to Educational Purposes—I

(2) COPELAND

Prerequisites: admission to Multiple Subject or Single Subject Teaching credential program, and consent of instructor.

Examination of varieties of computer-based technologies used in schools including computer-assisted instruction, computers as instructional tools, and computer-managed instruction. Acquisition of knowledge and skills necessary to use computer software and hardware in instructional settings.

203E. Applications of Computers to Educational Purposes—II

(2) COPELAND

Prerequisites: admission to Multiple Subject or Single Subject Teaching credential program, and consent of instructor.

Exploration of issues related to use of computer-based technologies in schools, including those of their access, use, and control in a democratic society; their use for development of problem solving, critical thinking, and creativity; and their integration into the school curriculum.

205. Comparative Education

(4) STAFF

Analysis of the role of education in developing nations; a study of educational problems and attempted solutions in societies of Asia, Africa, Central and South America, and the Pacific Islands.

207. Sociolinguistics in the Classroom

(4) DURAN

Prerequisite: admission to MA or Ph.D. program.

Aspects of language as it functions in instructional contexts. Topics covered include conversational analysis, nonverbal communication, direction following, children's understanding and use of language in social situations, functions of oral and written language, and sociocultural effects on communication styles.

209A. Theories of Child Development

(4) STAFF

Survey of general issues in development and approaches to the study of child development, including the learning theory, normative, information processing and Piagetian viewpoints. Analysis covers characteristics, underlying assumptions, and research evidence that bears upon the likely validity of the theories.

209B. Social Development

(4) HUDLEY-PAUL, MORRISON

Prerequisite: Education 209A or consent of instructor.

This course surveys the processes and content of human social development from infancy to adolescence. Topics include family socialization practices, the development of aggression and prosocial behavior, gender differences, peer and media influences, and social cognition.

209E. Seminar In Human Development

(1-6) STAFF

Prerequisite: consent of instructor. May be repeated.

In-depth consideration of emerging topics in human development. Course content may vary.

210A. Human Memory and Cognitive Processes

(4) STAFF

Survey of theoretical approaches and empirical findings in the areas of learning, memory, psycholinguistics, and cognitive processing. Topics include structure and process models of memory, nature of the information-processing approach, and related experimental methodology and findings.

210B. Cognitive Development

(4) BRENNER, OKAMOTO, ZIMMER

Prerequisite: consent of instructor.

This course presents a broad perspective of cognitive development and focuses on topics such as perception, problem solving; meta cognition; etc. The educational application of cognitive research will also be covered.

210D. Seminar in Language, Culture and Literacy

(1-6) STAFF

Prerequisite: consent of instructor. May be repeated.

In-depth consideration of emerging topics in language, culture, and literacy. Course content will vary.

211. Psychological Foundations of Education in the Elementary School

(3) STAFF

Prerequisites: admission to Multiple Subject Credential Program and consent of instructor.

Interdisciplinary approaches to theory and research on student behavior.

211B. Development: Infancy and Early Childhood

(4) VALDEZ-MENCHACA, ZIMMER

Theoretical bases and empirical findings on the development of children from conception through preschool age across various areas of competency; such as, social language, moral, cognitive, and motor.

211C. Development: Middle Childhood Through Adolescence

(4) HUDLEY-PAUL, MORRISON

Prerequisite: Education 211B or consent of instructor.

Theoretical bases and empirical findings on the development of children from age six through adolescence across various areas of competency; such as, social language, moral, cognitive, and motor.

211D. Issues in Human Development

(4) STAFF

Prerequisite: consent of instructor.

Particular issues in human development will be discussed and critiqued.

212A. Organizational Development: Introduction to Open Systems Theory

(4) STAFF

Prerequisite: consent of instructor.

Social-psychological assessment of organizations based on "open-systems" framework. Topics include observational, qualitative, and quantitative methods, use of records, documents, survey research methods, and use of psychological instruments on organizational climate, management styles, and interpersonal relations.

212B. Seminar in Organizational Development: Managing Stress and Conflict

(4) STAFF

Prerequisite: consent of instructor.

Social-psychological analysis of causes and control of stress and conflict throughout organizations in the context of "open-systems" theory. Topics include collaborative techniques and other models for effectively managing organizational stress and conflict.

213A. Single Case Experimental Design

(4) FURLONG, KOEGEL

Prerequisite: consent of instructor.

Students design and critique original single case experimental projects. The course covers the internal logic of each design; internal validity; external validity; development of reliable dependent measures and observational systems; and issues regarding social validity.

214A. Educational Statistics

(4) STAFF

Prerequisite: consent of instructor.

Topics to include: measures of central tendency and variability; sets, spaces, random variables; estimation theory and hypothesis testing; binomial, normal, T and Chi-square distributions; bivariate normal distribution.

214B. Educational Statistics
(4) STAFF
Prerequisite: consent of instructor.

Topics to include: review of interval estimation and hypothesis testing; one-way fixed analysis of variance; two-way fixed effects analysis of variance; principles of fixed-effect design; bivariate distributions, simple correlation, and simple regression; and binomial distribution.

214C. Educational Statistics
(4) STAFF
Prerequisite: consent of instructor.

Topics to include: random and mixed anova designs, repeated measures anova designs; non-parametric procedures, analysis of covariance (in relation to randomized block designs); multiple regression and correlation.

215A-B. Psychometrics
(4-4) SHAVELSON, DURAN, OKAMOTO
Prerequisite: Education 214C or equivalent, or consent of instructor.

The two course sequence introduces students to formal mathematical and statistical models of tests and test item characteristics. Topics covered include: classical true-score theory, reliability and validity, test construction techniques, equating and scaling of tests, latent-trait models, and methods for assessing test and item bias.

216A-B-C. Introduction to Multivariate Statistics in Education
(4-4-4) SHAVELSON, KANG
Prerequisites: Education 214A-B.

Advanced statistics devoted to multivariate distribution theory and analysis; multivariate analysis of variance, discriminant analysis, and canonical correlation. A review of the necessary matrix algebra will be included.

217A. Beginning Gestalt Theory and Practice
(3) STAFF
Prerequisite: consent of instructor.

An introduction to the theory and principles of Gestalt Therapy as applied to education and other human resource areas.

217B. Advanced Gestalt Theory and Practice
(3) STAFF
Prerequisites: Education 217A and 217D.

Advanced training in Gestalt with an emphasis on current theoretical, methodological and clinical developments as they apply to education and other human resource areas.

217C. Organizational Leadership: A Gestalt Perspective
(4) STAFF
Prerequisite: consent of instructor.

The application of the principles of Gestalt therapy as both a learning and interpersonal process to leadership behavior in institutions and organizations.

217D. Beginning Gestalt Laboratory
(2) STAFF
Prerequisite: consent of instructor.

Demonstration of and training in basic skills of Gestalt Therapy with applications to other than therapeutic contexts.

217E. Advanced Gestalt Laboratory
(2) STAFF
Prerequisites: Education 217A and 217D.

Demonstration of and training in advanced skills of Gestalt Therapy with application to other than therapeutic contexts.

218A. Professional Organizations
(1) STAFF
Prerequisite: consent of instructor.

This course explores issues related to professional training and practice in scientific-professional psychology. Topics include internship, graduate training models, history of scientific-professional psychology, professional organizations, credentialing, licensure and employment settings.

218B. Descriptive Diagnosis
(1) STAFF
Prerequisite: consent of instructor.

This course continues with topics covered in Education 218A related to professional training and practice in applied psychology.

218C. Gender Issues
(1) STAFF
Prerequisite: consent of instructor.

This is the third course in a sequence. This course will explore gender and sexual differences in the application of psychotherapy and counseling procedures.

218D. Sex Therapy
(1) STAFF
Prerequisite: consent of instructor.

This is the fourth course in a sequence and will introduce the concepts of sex therapy. This course is designed to meet the requirements for California State licensure of psychologists.

218E. Alcohol and Other Drug Abuse
(1) STAFF
Prerequisite: consent of instructor.

This is the fifth course in a sequence and will address drug and alcohol abuse. The course is designed to meet the requirements for licensure as a psychologist in the state of California.

218F. Family Violence
(1) STAFF
Prerequisite: consent of instructor.

This is the sixth course in a sequence. This course is devoted to explorations of family violence and its treatment. It will include an exploration of child , elder abuse, spouse abuse, and will include discussions of emotional and physical and sexual abuse.

219A. Testing Students
(4) BLOCK, COSDEN, DRUM

An introduction to student testing theory and practice. Covers the criteria of a good test - validity, reliability, objectivity, utility; school of testing - measurement, evaluation, and assessment; norm and criterion referenced testing.

219B. Teaching Students and Curriculum Design
(4) GREEN

Introduction to contemporary instructional research. Process-product, process-process, and context-process research are reviewed and applied to research on teacher-training and effective schooling.

219C. Motivating Students
(4) BLOCK

An exploration of contemporary school motivation theory. Emphasis is placed on modern cognitive and effective theories of intrinsic motivation: attribution, ability, achievement, self-worth, flow, and self-determination.

220A-B-C. Social Networks
(4-4-4) FRIEDKIN, JOHNSEN
Prerequisites: Mathematics 30 and an introductory course on statistics, or consent of instructor.

This course sequence introduces: (a) concepts, methods, and results of graph and network theory; (b) related probability and matrix theory; (c) selected computational routines and simulations; and (d) applications to social cohesion, position, balance, power, influence, exchange, and diffusion.

221A-B. Qualitative Research Methods
(4-4) STAFF
Prerequisite: consent of instructor.

Overview of qualitative research methods; emphasis on ethnographic approaches to study of educational settings and processes. Education 221A, B, focus on study of techniques for data collection and analysis within various disciplinary perspectives. Education 221C provides actual application of techniques.

221C. Seminar in Qualitative Research Methods
(4) STAFF
Prerequisite: consent of instructor

This seminar is intended to provide students with opportunity for data collection, analysis, discussion of findings, and discussion of more recent theoretical developments relevant to their research.

222A. Introduction to Exceptional Children
(4) STAFF

An overview of the historical, social, and legislative foundations of the education of the exceptional pupil. Survey of the range and nature of disabilities requiring special education.

222B. Psychology and Education of Learning Disabled and Behavior Disordered Children
(4) GERBER
Prerequisite: Education 222A or equivalent.

Course surveys definition and classification issues regarding individuals labeled learning disabled, emotionally disturbed, or behavior disordered. Cognitive and behavioral characteristics of individuals presented, analyzed, and discussed. Major attention given to instructional experiments yield valid and functional descriptions of learning difficulty.

222C. Psychology and Education of Mentally Retarded Children
(4) STAFF
Prerequisite: Education 222A or equivalent.

This course is designed to study the developmental, cognitive and affective characteristics of mentally retarded children. Special education theory and principles of educational modification for these students are also covered.

222D-E-F. Proseminar: Policy Research Issues in Special Education
(4-4-4) COSDEN, SEMMEL
Prerequisites: Education 222A-B-C or consent of program leader.

Contemporary policy research issues related to referral, assessment, identification, and placement of handicapped children in the schools. Includes review of literature, analysis, construction, and evaluation of variables contributing to least restrictive environments for the handicapped: IEP and instructional paradigms, due process, parent involvement, and personnel development.

222G. Seminar: Advanced Topics in Special Education
(4) SEMMEL
Prerequisite: advanced standing in the MA program, the M.Ed. Program, or consent of program leader.

Consideration of alternative instructional environments for handicapped pupils, new instructional roles for teachers, and leadership and consultation skills.

222H-I-J. Research Seminar: Policy Research in Special Education
(4-4-4) SEMMEL
Prerequisites: consent of instructor. Open to graduate students in special education and related areas of specialization.

Students are required to propose and conduct research studies on policy issues related to the education of handicapped children in the schools.

223A. Instructional Methods for Learning Handicapped Pupils
(4) SEMMEL
Prerequisite: Education 222A.

Course covers methods of instructional management, classroom organization, curriculum selection and modification, individual education program planning and evaluation.

223B. Instructional Methods and Classroom Management for Handicapped Pupils
(4) GERBER
Prerequisite: Education 222A. Education 229A is to be taken concurrently with this course. Fieldwork will be correlated with course content.

Implementation of individual educational programs, instructional management, selection modification of curriculum, and techniques of behavior management.

223C. Early Childhood Education of the Handicapped Child
(4) STAFF
Prerequisite: Education 222A.

Identification, planning, and delivery of special educational interventions for the preschool handicapped child. Includes review of relevant literature and service models.

223D. Issues and Instruction in Critical Life Span Needs
(4) STAFF
Prerequisite: consent of instructor.

Contemporary research and programmatic developments in special education towards critical skills needed throughout life in natural communities. Issues to be discussed include: social integration, advocacy, vocational service design, post secondary programs, deinstitutionalization and critical skills necessary for maximal independent living.

223E. Psycho-Educational Assessment and Evaluation of Handicapped Children
(4) COSDEN
Prerequisite: consent of instructor.

Methods of psycho-educational assessment and evaluation for identification, planning, placement, and review of progress of handicapped children in the public schools. Includes consideration of screening and diagnostic instruments and procedures, as well as instruments and materials to assure nondiscriminatory assessment.

223F. Family and Cross-Cultural Issues in Special Education
(4) VALDEZ-MENCHACA
Prerequisites: Education 222B-C or consent of instructor.

Issues in the integration of support and social systems (family and culture) for the identification and provision of special education service, and the role of cultural factors on intervention with handicapped children of different ethnic backgrounds.

223G. Social Psychology of the Handicapped
(4) STAFF
Prerequisite: consent of instructor.

Includes reviews of relevant research on development of social competence in handicapped children, and perceptions, somatopsychology, expectations, and interactions with adults and peers.

223H. Administrative and Legal Issues in Special Education
(4) GERBER
Prerequisites: Education 222B-C or equivalent and consent of instructor.

Legal requirements and responsibilities of special education administrators. Includes consideration of resource allocations, provision of procedural safeguards to parents, and initiation of innovations in organizing and administering special education programs in the schools.

223I. Secondary Education of Learning Handicapped Pupils
(4) STAFF
Prerequisites: Education 222B-C and consent of instructor.

Topics include adolescent development of the handicapped, educational alternatives, methods, secondary school curriculum, career counseling, and vocational preparation of handicapped youth.

223J. A Typical Language Development and Its Rehabilitation
(4) VALDEZ-MENCHACA

This course focuses on the etiology and treatment of language disorders associated with a variety of handicap conditions. Topics include the language characteristics of handicapped children, the assessment of language ability, design and implementation, and evaluation programs.

223K. Effective Teacher Behavior Seminar and Laboratory
(4) SEMMEL
May be repeated to maximum of 12 units.

A laboratory-based seminar on effective teacher behavior. Students review research literature and systematically define, observe, and evaluate specified teacher behavior in the laboratory and in the field.

224. Seminar in Research Methodology
(1-6) STAFF
Prerequisite: consent of instructor. May be repeated.

In-depth consideration of emerging topics in research methodology. Course content may vary.

225EW-ES. Social Foundations of Education/Elementary
(4) STAFF
Prerequisites: admission to the Elementary Credential Program in Education. Consent of instructor. Not open to students who have completed Sociology 164 or Education 125. Education 225EW-ES is a two quarter in-progress sequence course with grades for both quarters issued upon completion of the final quarter.

A study of the relationship between school and society. Social and political influences on education, historically and currently, will be examined. Schools as a complex organization with unique roles will be studied.

225S. Social Foundations of Education/Secondary
(3) STAFF
Prerequisites: admission to the Secondary Credential Program in Education; consent of instructor. Not open to students who have completed Sociology 164 or Education 125.

A study of the relationship between school and society. Social and political influences of education, historically and currently, will be examined. Schools as a complex organization with unique roles will be studied.

226A. Early Childhood Learning and Development
(4) OKAMOTO, ZIMMER
Prerequisite: consent of instructor.

Course focuses on learning and developmental concepts concerning children from birth to 11 years of age. Theories acquired are placed within a context of home and school. There will be a special emphasis on Piagetian theory.

226B. Semiotic Functions: Play, Dreams, and Imitation in Early Childhood
(4) VALDEZ-MENCHACA, ZIMMER
Prerequisite: consent of instructor.

The course is designed to explore the role of play, dreams, and imitation as mechanisims for conceptual understanding and as their function in representation.

226C. Socialization in Early Childhood
(4) COSDEN, VALDEZ-MENCHACA, ZIMMER
Prerequisite: consent of instructor.

This course explores how preschool and early elementary school children are socialized as learners, how they feel about themselves and how they relate to others. Influences of culture, family, and individual characteristics will be examined.

228A. Early Childhood Interventions
(4) COSDEN, VALDEZ-MENCHACA, ZIMMER
Prerequisite: consent of instructor.

This course will explore the theory and methods that are used in intervention studies. In addition, outcomes of intervention studies will be examined.

228B. Readiness and Assessment in Early Childhood
(4) COSDEN, VALDEZ-MENCHACA, ZIMMER
Prerequisite: consent of instructor.

Development of appropriate environments are considered important for early learning. Issues of learning readiness and how readiness is assessed will be explored as well as implications for parenting and early child care and kindergarten.

229A. Practicum in Special Classes for Learning Handicapped Pupils
(2-12) SEMMEL
Prerequisite: consent of instructor.

Supervised field-based practicum in instruction and management of special day classes for learning handicapped pupils.

229B. Internship in Special Education
(2-12) STAFF
Prerequisites: advanced standing in the doctoral program and consent of program leader.

Field placement in private, local, state, or federal education agency to acquire experience in research and policy formulation on issues related to delivery of educational services to handicapped pupils.

229C. Practicum in Special Education Programs for Severely Handicapped Pupils
(2-12) STAFF
Prerequisite: consent of instructor.

Supervised field-based practicum in instruction and management of special education programs for severely handicapped pupils.

229D. Site Visit Practicum in Special Education
(2-4) COSDEN, SEMMEL

The program is designed to acquaint students with the various public school and community agency programs that serve the handicapped. Students visit at least five different programs and volunteer in one of them.

229E. Practicum in Psycho-Educational Assessment of Learning
(2-4) COSDEN

Development of skills in administration and interpretation of standardized and informal tests. Test ethics, participation in multidisciplinary assessment also covered.

230. Developmental and Remedial Reading
(4) DIXON
Prerequisite: consent of instructor.

A course for the classroom teacher and the specialized reading teacher, emphasizing practical, innovative techniques in the reading program. Offered summer session only.

231A-B-C-D. Developmental and Remedial Reading Laboratory
(1-4, 1-4, 1-4, 1-4) DIXON
Prerequisite: admission to the MA in reading or consent of instructor.

An advanced course in developmental and remedial reading. A practical laboratory experience. Students will learn to implement instructional programs with remedial and developmental reading students.

232A. Reading Diagnosis
(4) DIXON
Prerequisite: consent of instructor.

First course in reading diagnosis. Course emphasizes the selection and implementation of diagnostic practices and prescription in both developmental and remedial reading programs.

232B. Advanced Reading Diagnosis
(4) DIXON
Prerequisite: Education 232A.

Second course in reading diagnosis and prescription intended for the person organizing and implementing developmental and remedial programs in the schools.

233W-S. The Roles of a Reading Specialist
(2-2) DIXON
Prerequisite: consent of instructor. Education 233W-S is a two-quarter sequence course; both quarters must be taken to receive credit.

Seminar discussions examine (among others) roles of reading specialists as curriculum designer, program evaluator, change agent, and proposal writer. Major project will involve evaluation of a schoolwide reading program.

234. Linguistics for Teachers
(4) DRUM

Linguistic theory and its applications to the teaching of language and reading skills. The course will survey topics in phonetics, syntax, semantics, and pragmatics.

237A. Labor Relations
(4) STAFF
Prerequisite: consent of instructor.

Introductory study of legal and substantive issues, cases, problems in negotiations, dispute settlement techniques and private and public sector comparison.

237B. Labor Relations and School Law
(4) STAFF
Prerequisite: admission to Administrative Services Credential program and/or MA program in Educational Policy and Organization.

Study of legal/substantive issues, cases, negotiation problems, dispute settlement techniques and private/public sector comparison. Study of school law history including significant cases; education, administrative, welfare, institutional, and other relevant codes; and opinions of courts, attorney general, and county counsel.

238. Children's Literature
(4) DIXON
Prerequisite: consent of instructor.

Topics include the development of tastes and interests, values and attitudes; standards for the creating of children's literature; bibliotherapy—the problems approach; individualized reading—balancing the diet; interrelationships with total curriculum; experimenting with children's literature. Offered summer session only.

239. School Law
(4) STAFF

The history of school law including significant cases will be reviewed along with a study of the education, administrative, welfare, institutional, and other relevant codes. Opinions of the courts, attorney general, and county counsel will also be studied.

240A. Education Policy
(4) RUMBERGER
Prerequisite: consent of instructor.

An introduction to education policy that will examine both the process of education policy and a series of substantive issues that are commonly the focus of education policy at the state and federal levels.

240B. Economic Analysis and Education Policy
(4) RUMBERGER
Prerequisite: Education 240A.

This course will examine the use of economic theory and concepts, i.e.; human capital theory, public finance, and cost-effectiveness evaluation, as a basis for understanding and solving a variety of current education policy problems.

240C. Advanced Seminar in Educational Policy
(4) STAFF
Prerequisite: consent of instructor.

An in-depth analysis of literature and topics in various areas of education policy. Topics will be geared to particular student interests.

240D. Seminar in Higher Education Research and Policy
(2) BLOCK, RUMBERGER
Prerequisite: consent of instructor.

This course addresses current research and policy issues in higher education.

241A. Politics of Education
(4) IANNACCONE
Prerequisite: consent of instructor.

Educational governance and politics are explored as well as legal and extralegal controls exerted upon schools as public institutions.

241B. Politics of Education
(4) IANNACCONE
Prerequisite: consent of instructor.

A systematic examination of governance and politics of education in local, state, national, and international contexts. Emphasis is placed on various processes and mechanisms of politicization of educational governance.

242A. Social Psychology of Organizations
(4) FRIEDKIN

This course examines structure and process in formal organizations from a social psychological perspective.

242B. Advanced Topics on Complex Organizations
(4) FRIEDKIN
Prerequisite: consent of instructor.

This seminar will involve an intensive literature review and discussion of an active research topic in the field of complex/formal organizations. The particular topic may vary from year to year.

243. The School Administrator and Supervisory Practice
(4) STAFF
Prerequisite: consent of instructor

The role of the school administrator through theoretical and practical contexts will be explored.

244. Organizations and Interpersonal Relations
(4) STAFF
Prerequisite: consent of instructor.

Theoretical and experiential course on "human side of management". Applies knowledge of intergroup relations (e.g. cooperation, competition, the "isms") to organizations. Emphasizes the effects on interpersonal relations of various organizational and identity group memberships of individuals.

245A. Educational Finance
(4) GLASMAN
Prerequisite: consent of instructor.

An introduction to the financing of education at the school, district, county, state, and federal levels. Emphasis will be given to the economic foundations of school financing.

246A. Evaluation in Educational Administration
(4) GLASMAN
Prerequisite: consent of instructor.

Educational evaluation is examined as an executive function. Emphasis is on practices, models, and studies of program and personnel evaluation and the integration of educational evaluation within the context of educational decision making.

246B. Evaluation in Educational Administration
(4) GLASMAN
Prerequisite: consent of instructor.

Theories and practices of program and personnel evaluation, including use of research methodology in evaluation and construction of evaluation instruments. Emphasis on program characteristics, personnel behavior, characteristics, and possible correlations with student achievement. Evaluation results as inputs for administrative decision making.

247A. Educational Leadership
(4) GLASMAN
Prerequisite: consent of instructor.

Systematic analysis of the antecedents and consequences of administrator behavior in a variety of educational settings.

247B. Advanced Seminar in Administrator Behavior and Effects
(4) STAFF
Prerequisite: consent of instructor

In-depth analysis of the literature on administrator behavior and effects in educational organizations, including preparation of independent critiques.

248A. Multiple Regression
(4) FRIEDKIN
Prerequisite: Education 214A.

This course covers simple linear regression, multiple regression, regression with categorical independent variables, and nonlinear/nonadditive regression models.

248B. Causal Models
(4) FRIEDKIN
Prerequisite: Education 248A.

This course provides an introduction to structural equation models. It covers the construction and estimation of recursive, nonrecursive, and mixed regressive autoagressive models. Path analysis and flowgraphs are dealt with.

248C. Survey Research Practicum
(4) FRIEDKIN
Prerequisite: consent of instructor.

Seminar provides practical experience with survey research methods. Students will engage in computer assisted analyses of survey research data.

249A. Field Practicum, Innovation, and Change
(1-6) STAFF
Prerequisite: admission to the Administrative Services Credential program and/or the MA program in Educational Policy and Organization.

Field experience, discussions with local administrators, and simulated activities will be utilized to maximize understanding of the "work world" of school administrators.

249B. Practicum in Advanced Research—Educational Administration
(4) STAFF

Supervised advanced research in the field of organization and policy.

249C. Secondary Data Analysis in Education Research
(4) STAFF
Prerequisite: Education 214A-B or 248A-B.

Introduction to existing data bases and published statistics at national, state, and local levels. Students will be required to conduct statistical analyses of a variety of data sets.

250A-B-C-D. Doctoral Seminar in Confluent Education
(4-4-4-4) IANNACCONE
Prerequisite: consent of instructor.

Critique and integration of major concepts and research in the field of confluent education preparatory to Ph.D. dissertation. Discussion of effective strategies for needed research, assistance in defining areas and problems for dissertation research.

252. Classroom Interaction
(4) STAFF
Prerequisite: consent of instructor.

Study of current research and theory related to verbal and non-verbal teacher-student interactions in classroom settings. Use of observation instruments to measure the impact of teacher behavior on student behavior. Guided practice using selected interaction techniques: asking questions, changing wait-time and reward schedules, and other techniques related to success with new curriculum materials.

253A. Design of Instruction
(4) COPELAND
Prerequisite: consent of instructor.

An examination of (a) analytical models for the study of instruction, (b) major research findings on school learning, (c) representative instructional strategies and tactics, and (d) skills for designing instructional systems.

253B. Interactive Technology in Education
(4) COPELAND
Prerequisites: graduate standing and consent of instructor,

An examination of actual and potential applications of computers to educational purposes including their use with tutorials, drill and practice, and simulation, as tools and educational environments, and in promoting computer literacy. Introduction to classroom appropriate hardware and software use and evaluation.

253C. Computer Programming for Educational Purposes
(4) COPELAND
Prerequisite: Computer Science 5PA or consent of instructor.

Applications of programming to educational problems. Special consideration of graphics, user error trapping, formatting, data capturing, and freeform user interaction, user vs. program control and feedback.

253D. Seminar in Teaching and Learning
(1-6) STAFF
Prerequisite: consent of instructor. May be repeated.

In-depth consideration of emerging topics in teaching and learning. Course content may vary.

254. Instructional Supervision and Curriculum Design
(4) STAFF
Prerequisites: enrollment in the MA and/or Administrative Services Credential Program.

A study of systematic approaches to supervision, and basic conceptions about curriculum theory, design, and evaluation. The role of the administrator as supervisor and developer of curriculum is also examined.

255A. Being a Student
(4) BLOCK

This course focuses on the nature of the student role. Specifically it examines school and classroom life from the student perspective drawing on literature from educational sociology, social psychology, and anthropology.

255B. Social Organization of the Classroom

(4) BLOCK

Classrooms are considered as social systems. Special attention is paid to the roles of student and teacher using literature from sociology, social psychology, and anthropology.

255C. Reforming the School

(4) BLOCK

In-depth examination of contemporary trends in schooling with special emphasis on current literature on effective schooling, mastery learning, and school reform.

256A. The Methodology of the Affective Domain

(4) STAFF

Prerequisite: consent of instructor.

Theories of and practices in the effective domain drawn from humanistic psychology and related disciplines will be examined and applied to classroom or institutional functionings. There will be an experimental component.

257. Practicum in Design of Instruction

(4) COPELAND

Prerequisite: consent of instructor.

Guided experience in the development and evaluation of instructional sequences which will be the basis of the master's thesis.

258A. Seminar in Curriculum: Reading

(4) DIXON, DRUM

Prerequisite: consent of instructor.

Recent developments, review, and evaluation of current research in curriculum will be explored

258B. Seminar in Curriculum: Mathematics

(4) BRENNER, ZIMMER

Prerequisite: consent of instructor

Examination of mathematics curricula from several points of view: historical, theoretical, and in practice. Special attention will be given to comparing curricula advocated by the reform movement to curricula currently used in schools.

258C. Seminar in Curriculum: Social Studies

(4) COPELAND

Prerequisite: consent of instructor.

The course explores historical and recent developments in curriculum development research in Social Studies grades K-12.

258D. Seminar in Curriculum: Science

(4) STAFF

Prerequisite: consent of instructor.

The course covers the review and evaluation of recent developments in curriculum development and research in science.

260. Seminar: The Creative Process

(4) STAFF

Prerequisites: graduate standing and consent of instructor.

A discussion of the research on, and theories of, creativity. Emphasis will be on psychological process rather than on creative productivity. Major focus will be on descriptive studies of the creative person, and contributions to the methodology of creative growth.

261A. Multicultural Organization Management

(4) STAFF

Prerequisite: consent of instructor.

Introductory course on the theory and practice of leading multicultural groups such as project reams, boards, and training groups. There will be an experiential component to this class.

261B. The Dynamics of Planned Change

(4) STAFF

Prerequisite: consent of instructor.

Examination of role of change agents to various client systems with exploration of theories of social change, providing theoretical framework from which to understand systemic problems of individuals and groups. Development of skills of consultants to various social systems.

261C. Human Relations in Education

(4) STAFF

Prerequisite: consent of instructor.

Application of technology of change agentry, group dynamics and encounter groups or T-Groups to educational systems. Survey of educational institutions and study of human relations procedures available for improvement. Development of "design" capacities in planning human relations programs.

262. Seminar in Professional Psychology

(4) STAFF

Consideration of emerging topics in counseling, clinical, and/or school psychology. Course content may vary.

263A. Advanced Counseling Theories and Techniques

(4) BEUTLER, ZANE

Prerequisites: Education 265 and 275.

The course explores techniques of psychodynamic, cognitive-behavioral, behavioral, experimental, and systems theories through prominent psychotherapy manuals. Students will develop basic proficiency in two of these manuals and address their value for diverse populations.

263B. Consultation in the Schools and Community

(4) BEUTLER, CASAS, MORRISON

Prerequisite: consent of instructor.

Review of major models of consultation (e.g., mental health, behavioral, organizational) as they apply to school and community settings. Emphasis is on the development of generic techniques of problem solving, conflict resolution and program development.

264A. Administration of Guidance Services

(4) ATKINSON

Prerequisite: consent of instructor.

Students are exposed to a variety of counselor roles, counseling techniques, and current issues associated with school counseling.

264C. Principles of Behavior Management

(4) KOEGEL

History and philosophy of behavior management approaches; behavioral assessment procedures; treatment delivery paradigms; parent-training; nonaversive/aversive issues; generalization and maintenance of treatment gains; cause, evaluation of behavior changes, medicine, self-management.

264D. Psychoeducational Strategies in the Schools

(4) MORRISON, COSDEN, FURLONG

Group and individual strategies for prevention and intervention with children and adolescents in the schools. Problems and processes involved in the implementation of these strategies and programs by support services personnel will also be explored.

265. Basic Practicum

(3) STAFF

Prerequisite: admission to Counseling/Clinical/School Psychology Program.

This course provides students with the opportunity to practice basic helping skills in interviewing and assessing in conjunction with material presented in Education 266B.

265SS. Fieldwork in Counseling and Concurrent Seminar

(3) STAFF

Prerequisite: consent of instructor.

Intensive supervised fieldwork in counseling. A minimum of one full day in an approved practicum setting plus individual and group supervision at the University are required. Offered in Summer Session only.

266B. Cognitive Assessment in Professional Psychology

(4) FURLONG, MORRISON

Prerequisites: concurrent enrollment in Education 219A. Consent of instructor.

This course provides in-depth coverage of the Wechsler series, the Stanford Binet (4th ed.) and other major tests of cognitive ability. A general approach to test administration and interpretation is stressed. General issues in test bias are used to guide class discussion.

266C. Personality Assessment in Professional Psychology

(4) FURLONG, BEUTLER, ZANE

Prerequisite: Education 219A.

Students will learn how to evaluate, administer, score, and interpret assessment instruments commonly used in professional psychology to evaluate normal and abnormal aspects of personality, mood states, effective states, and behavior patterns. MMPI, Rorshach, 16 PF, and Personality Inventory for Children will be used.

267. Group Dynamics

(4) STAFF

Prerequisite: consent of instructor.

Theoretical and experiential introduction to group processes in small face-to-face groups. Course will include participation in a self-analytic training group.

268A. Advanced Fieldwork: General

(3) STAFF

Prerequisites: Education 265.

The course provides practice in defined developmental or therapeutic models with a focus on specific populations in the Ray E. Hosford Clinic.

268B. Advanced Fieldwork: School Psychology

(4) STAFF

Prerequisites: three quarters of Education 268A.

Advanced supervised fieldwork in an approved school setting under supervision of a credentialed school psychologist. A minimum of two full days of fieldwork plus supervision at the university are required.

268C. Advanced Fieldwork: Counseling Psychology

(4) STAFF

Prerequisites: three quarters of Education 268A.

Advanced supervised fieldwork in an approved counseling setting under the supervision of a licensed psychologist. A minimum of two full days in an approved setting is required.

268D. Advanced Fieldwork: Clinical Psychology

(4) STAFF

Prerequisites: Education 268A.

Advanced supervised fieldwork in an approved clinical setting under the supervision of a licensed psychologist. A minimum of two full days in an approved setting is required.

268E. Advanced Fieldwork in Counseling: Counselor Education

(3) STAFF

Prerequisite: completion of at least one full year of doctoral studies in counseling psychology.

Supervised fieldwork experience in counselor education. A minimum of three hours per week of classroom experience plus three hours in individual and group supervision seminars.

268F. Internship in School Psychology

(6-12) STAFF

Prerequisites: Education 268B.

Advanced internship in school psychology in a setting approved by faculty. Twenty to forty hours weekly of fieldwork under the supervision of a credentialed school psychologist are required.

268H. Internship in Clinical Psychology

(6-12) STAFF

Prerequisites: Education 268A-B-C and advancement to candidacy.

Advanced internship in counseling in a setting approved by faculty. Twenty to forty hours weekly of fieldwork under the supervision of a licensed psychologist are required.

268I. Internship in Counseling Psychology

(6-12) STAFF

Prerequisites: consent of instructor and advancement to candidacy.

Advanced internship in counseling in a setting approved by faculty. Twenty to forty hours weekly of fieldwork under the supervision of a licensed psychologist are required.

269A. Psychological Interventions for Children and Families
(4) MORRISON, COSDEN, FURLONG
Prerequisite: consent of instructor.

Course provides students with basic theories and skills for interventions to meet the psychological needs of children and families. Topics include play therapy, systems therapy, parent education, and cognitive behavioral interventions.

270A. Classrooms as Cultures
(4) GREEN
Prerequisite: consent of instructor.

This course examines classrooms as cultures and overviews anthropological studies of classroom processes to identify factors that support and/or constrain learning in classrooms. Topics to be explored include: classroom discourse, school culture, peer culture, situated learning.

270C. Race and Ethnicity in American Education: A Comparative History
(4) STAFF
Prerequisite: consent of instructor.

Offers a historical overview of minority education in our public schools with emphasis on urban multiethnic student populations and their struggle for educational equity. A research paper is required.

270D. Seminar in Crosscultural Education: Concepts and Theories
(4) STAFF
Prerequisite: consent of instructor.

Presents the theoretical foundations of cross-cultural education with emphasis on its history, rationale, and objectives.

270G. Crosscultural Curriculum Development in Content Areas
(4) STAFF
Prerequisite: consent of instructor.

Offers the theoretical rationale for curriculum development in cross-cultural education with its specific goals and objectives in social science, mathematics, science, and related areas.

270H. Language, Culture and Learning
(4) STAFF
Prerequisite: consent of instructor.

Explores the effect of language, culture, background, and values on learning processes and the implications for the development of appropriate instructional strategies.

271A. Sex and Gender Issues
(4) STAFF
Prerequisites: Education 265A and 275.

Overview of sex and gender in counseling process and outcome. Topics will include sex/gender of counselor, sex/gender of client, lifespan development and problems of men and women, counseling across sex and across gender identification.

275. Counseling Philosophies and Theories
(4) BEUTLER, CASAS
Prerequisites: consent of instructor and enrollment in MA Counseling Psychology Program.

Develops an understanding and appreciation of the major philosophies and theories in the field of professional psychology. Special attention is directed towards examination of applicability of theories and inherent techniques to racial/ethnic minority populations.

277A. Ethical Standards in Professional Psychology
(4) ATKINSON, FURLONG
Prerequisites: consent of instructor.

Course examines scientific and professional ethics in applied psychology. In addition to reviewing existing standards, the course focuses on a range of ethical and legal issues such as confidentiality, dual relationships, and client rights.

277B. Research Design and Methods in Professional Psychology
(4) STAFF
Prerequisites: consent of instructor.

The course examines both clinical and statistical approaches to professional psychology research. Special attention is devoted to conceptualizing and developing research proposals in the area of professional psychology.

277C. Theories of Career Development
(4) STAFF
Prerequisite: consent of instructor.

This course focuses on theories of career development, current trends in research and the input of technological and social changes in the society on the role of work in life span development.

277D. Current Research in Professional Psychology
(4) STAFF
Prerequisites: consent of instructor.

This course focuses on current process and outcome research in counseling psychology. Implications of current research for future research, practice, and counselor education are discussed.

277E. Historical and Philosophical Foundations of Professional Psychology
(4) CASAS
Prerequisite: Education 275.

This seminar will facilitate a selective and critical analysis of the historical/philosophical foundations of western psychology. To this end, attention will be directed to those individuals, ideas and events that have shared the history of psychology.

277F. Theory and Research of Group Counseling
(4) STAFF
Prerequisite: consent of instructor.

The course reviews current theory, research, and practices related to group counseling. Special attention is given to comparisons of theoretical approaches and accompanying research used in assessing the effectiveness of group counseling modalities.

277G. Individualized Treatment Planning
(4) BEUTLER
Prerequisites: consent of instructor and Education 263A.

An advanced course in the intervention series which focuses on developing treatment programs to meet individual needs. Problem presentations, social environments, personal characteristics, demographic backgrounds and expectations related to planning settings, modes formats and psychological procedures.

277H. Career and Life Development Appraisal
(4) STAFF

Examination of the structure, administration, and interpretation of career and life development assessment instruments. Also examination of instruments commonly used in counseling psychology research.

277I. Professional Psychology and Social Change
(4) ATKINSON

The role of professional psychology in promoting social change is examined. Topics include the profession's past and future role in promoting global peace, human rights, and social programs.

277J. Counseling Strategies for Developmental Concerns
(4) STAFF

Examination of individual and group counseling strategies and counseling agency services designed to meet client educational and developmental needs not attributable to a mental disorder.

277K. Supervision Theory
(4) STAFF
Prerequisite: Education 268A-B-C.

An overview of theory and research on the process and outcomes of supervision of professional psychologists.

278A. Diversity Issues in Professional Psychology
(4) ATKINSON, CASAS, ZANE

The experiences of racial/ethnic minority groups, gay men, and lesbian women, disabled persons, and the elderly are discussed and variables affecting their mental health needs are examined.

278B. Racial/Ethnic Minority Counseling Research and Intervention Strategies
(4) CASAS, ZANE
Prerequisite: Education 278A.

Course critically examines the prevailing counseling research and intervention strategies with racial/ethnic minorities. Major focus will be identification of ways to improve the quality and utility of research and interventions.

278C. Racial/Ethnic Minority Counseling Research
(4) CASAS, ZANE
Prerequisites: Education 278A and 278B.

This course will identify and critically examine the methodological issues inherent in racial/ethnic minority counseling research. The focus will be to help students design research projects relative to racial/ethnic minorities.

280. Seminar: Issues and Trends in Crosscultural Education
(4) STAFF
Prerequisite: admission to doctoral study or consent of instructor.

Examines significant issues and research trends related to the theory and practice of cross-cultural education at the national, state, and local levels.

281. Seminar: Program Design in Crosscultural Education
(4) STAFF
Prerequisite: admission to doctoral study or consent of instructor.

A systematic study of major program models in cross-cultural education, including the analysis of current teaching methodologies and the design of effective programs to meet the special needs of minority students.

282. Organizations as Learning Systems
(4) IANNACCONE
Prerequisite: consent of instructor.

Organizational membership as experiential learning with emphasis on functional and dysfunctional stress around work flow and authority systems, socialization, executive succession, and organizational renewal.

283. Curriculum and Instruction in Confluent Education
(4) STAFF
Prerequisite: consent of instructor.

The systematic development of curricular structures and instructional methodology derived from the philosophy and theory of confluent education. Topics include: (a) basic curriculum design, (b) confluent instructional strategies, (c) methodology for diagnosing student concerns and learning styles, (d) evaluation. Class will integrate lectures, discussions, laboratory work, and field observation.

285. Clinical Appraisal
(4) STAFF
Prerequisites: Education 219A, 266B, and 266C.

This course presents advanced concepts in psychological evaluation. Primary focus is on integration of psychological assessment data and report writing. Special attention is given to the needs of different settings and the influence of culture, gender, and age on psychological test data.

287. Organizational Leadership Issues in Literature
(4) IANNACCONE

Readings from organizational theory and novels of military, economic, educational, and governmental organizations. Organizational issues emphasized are: executive succession and related organizational changes, bureau pathology, interagency conflict, means-ends reversals, organizational mindlessness, and human stress.

288B. Issues in Confluent Education
(4) STAFF
Prerequisite: consent of instructor.

Survey of key problems and trends in confluent education. Strategies for introducing confluent education into educational systems, personal and intellectual criteria for selection of confluent educators. Research and assessment procedures and future of confluent and other humanistically oriented approaches.

289. Practicum in Confluent Education
(1-6) STAFF

Prerequisite: admission to MA, M.Ed., or Ph.D. in confluent education.

Supervised practice in applications of techniques, methods, and curricula of confluent education in public schools, private schools, higher education, community education, and other educational programs or systems.

292A. Mathematics Development in Early Years
(4) OKAMOTO, ZIMMER

Prerequisite: consent of instructor

Explores how pre-school and early elementary school children acquire early logical and mathematical understanding. The acquisition of: counting, cardinal, and ordinal understanding, mathematical operations, and the representations of mathematical ideas by children will be addressed.

292B. Mathematics Development in Middle Years
(4) BRENNER, OKAMOTO

Prerequisite: consent of instructor.

This course looks at how elementary school children learn mathematics in specific topical areas such as word problems and rational numbers. Implications for instruction will be discussed.

292C. Mathematics Development in Adolescents
(4) BRENNER, OKAMOTO

Prerequisite: consent of instructor.

This course examines mathematical problem solving at the secondary and college level. Different approaches to problem solving will be discussed in terms of the relevant theories, mathematics curricula and instructional delivery.

293. Mathematics: Cultural Comparisons
(4) BRENNER, OKAMOTO, ZIMMER

Prerequisite: consent of instructor.

Investigation of mathematics instructions and achievements from a cross national perspective. Both formal and informal mathematics applications will be reviewed. Sources of information will include the International Education Assessment (IEA) studies of mathematics as well as sources from anthropology, sociology, and educational journals.

295. Seminar in Educational Psychology
(4) STAFF

Prerequisite: consent of instructor. May be repeated for credit, as topics vary.

Seminar course that deals with a variety of topics related to cognition and instruction.

296A. Educational/Psychological Characteristics of the Severely Handicapped Child
(4) STAFF

Prerequisite: consent of instructor.

Theoretical and applied models for the education of SH children. Historical and cultural perspectives, service needs of severely handicapped.

296B. Assessment, Instruction, Evaluation of Severely Handicapped Students
(4) STAFF

Prerequisite: Education 296A.

Methods of systematic assessment, instruction, and evaluation including observational techniques, curriculum development, and single subject evaluation design for teaching severely handicapped.

298A. Research Practicum I
(1) STAFF

Prerequisite: consent of instructor.

298B. Research Practicum II
(3) STAFF

Prerequisite: consent of instructor.

298C. Research Practicum III
(3) STAFF

Prerequisite: consent of instructor.

299. Assessment and Treatment of Substance Abuse
(3) STAFF

Prerequisites: admission to counseling psychology program and consent of instructor.

This course covers diagnosis of substance abuse, current theories of the etiology of substance abuse, and major treatment approaches to alcoholism and chemical dependence.

TEACHER PREPARATION

Professional preparation in teaching (300-393 series): These courses are designed for the professional sequence in approved credential programs. They provide theory related to field practice in teaching, and cover the design of instruction, teaching strategies, development of instructional materials, and the psychology of learning. The student teaching experience provides the opportunity for application of university course work in practice. Courses in the 392 series have as a prerequisite admission to a teaching credential program at UCSB. The Education 392 series courses coincide with the calendar of the public schools.

SC318A-B. Teaching Writing Across the Curriculum — Secondary
(1-1) STAFF

Prerequisite: admission to Single Subject Credential Program. A two-quarter sequence; both quarters must be taken to receive credit.

A participatory workshop providing a theoretical framework and practical methodology for using writing as a tool for learning at every level and in all fields of study. Features demonstration lesson by teacher consultants of the South Coast Writing Project.

SC319. Teaching Writing Across the Curriculum — Elementary
(2) STAFF

Prerequisite: admission to Multiple Subject Credential Program.

A participatory workshop providing a theoretical framework and practical methodology for using writing as a tool for learning at every level and in all fields of study. Features demonstration lesson by teacher consultants of the South Coast Writing Project.

SC390F-W-S. Curriculum and Instructional Procedures & Materials Used in Teaching English in the Secondary School
(1-1-1) STAFF

Prerequisite: admission to Single Subject Credential Program

Seminar for student teachers in classroom applications of educational theory to the teaching of English. Education SC390F-W-S is a three quarter in-progress course. All three quarters must be taken to receive credit for a total of 3 units.

R390AF. Multicultural, Social, and Linguistic Factors in Teaching English as a Second Language
(1) STAFF

Prerequisites: Education R390 and admission to the Single Subject Credential Program. This is an in-progress sequence course; both quarters must be completed to receive credit.

Practical theories and teaching strategies for teaching students from diverse language groups will be examined and practiced through workshop styles.

R390AW. Multicultural, Social, and Linguistic Factors in Teaching English as a Second Language
(1) STAFF

Prerequisites: Education R390 and admission to the Single Subject Credential Program. This is the second quarter of a two-quarter in-progress sequence course; both quarters must be completed to receive credit.

Practical theories and teaching strategies for teaching students from diverse language groups will be examined and practiced through workshop styles.

R390F-W. Procedures for Secondary Reading
(2-1) DIXON

Prerequisite: admission to the Single Subject Credential Program. Education R390F is prerequisite to R390W. ED R390F-W is a two-quarter sequence course; both quarters must be taken to receive credit.

Application of research and theory to procedures in the teaching of reading through problem solving situations, inductive reasoning and discovery, adapting instruction to individual reading needs. Designed to coincide with semester system of public schools.

R392A-B. Multicultural Reading Field Experiences
(2-2) STAFF

Prerequisite: admission to Single Subject Credential Program and consent of instructor.

Supervised field experience in multicultural settings for secondary teacher candidates.

R392C. Multicultural Reading Field Experiences
(1) STAFF

Prerequisites: Admission to Single Subject Credential Program and consent of instructor.

Supervised field experience in multicultural settings for secondary teacher candidates.

S390. Procedures Used for the Teaching of Art in the Schools
(3) STAFF

Prerequisites: admission to the Single Subject Credential Program in art. Not open to students who received credit for Art Studio 290.

Students are given "hands on experiences" in developing art instructional strategies. They are prepared to teach the art curriculum commonly taught in California schools. Recent ideas from the literature on art education are covered.

SL390. Curriculum and Instructional Procedures and Materials Used in the Teaching of Foreign Languages
(3) STAFF

Prerequisite: admission to Single Subject Credential Program. Background in a foreign language.

Methodology of foreign language teaching.

SM390. Curriculum and Instructional Procedures and Materials Used in the Teaching of Mathematics
(3) STAFF

Prerequisite: admission to Single Subject Credential Program in mathematics.

Procedures, curriculum, research, and theory related to teaching and learning mathematics.

SPS390. Special Education in the Secondary School
(4) STAFF

Prerequisites: admission to Single Subject Credential Program. Graduate standing.

A survey course in special education for students preparing to teach at the high school level. Topics include educational policy, instructional modification, and the role of the teacher in meeting the education needs of the handicapped adolescent.

SS390F-W-S. Instructional Procedures Used in the Teaching of Social Studies
(1-1-1) STAFF

Prerequisite: admission to Single Subject Credential Program in social sciences.

This course is required of candidates for the Single Subject Credential in one of the following social sciences: anthropology, economics, history, political science, sociology, geography, psychology, or combined social sciences.

ST390. Curriculum and Instructional Procedures and Materials Used in the Teaching of Science
(3) STAFF

Prerequisite: admission to Single Subject Credential Program in life sciences or physical sciences.

Lecture-discussion sessions considering secondary school science curriculum materials, and the objectives and teaching strategies appropriate to these materials.

E391A. Materials Used in Teaching of Mathematics in Elementary Schools
(3) STAFF

Prerequisites: graduate standing and enrollment in the Multiple Subjects Credential Program.

The application of research and theory to classroom practice in the teaching of mathematics.

E391BW-BS. Elementary Science Teaching Procedures

(2-1) STAFF

Prerequisites: graduate standing and enrollment in the Multiple Subjects Credential Program. Education E391BW is prerequisite to E391BS. Education E391BW-BS is a two-quarter sequence course; both quarters must be taken to receive credit.

The application of research and theory to classroom practice in the teaching of science.

E391CW-CS. Elementary Social Studies Teaching Procedures

(2-1) STAFF

Prerequisites: graduate standing and enrollment in the Multiple Subjects Credential Program. Education E391CW is prerequisite to E391CS. Education E391CW-CS is a two-quarter sequence course; both quarters must be taken to receive credit.

The application of research and theory to classroom practice in the teaching of social studies.

E391DF-DW. Elementary Reading and Language Arts Teaching Procedures

(3-2) STAFF

Prerequisite: admission to the Multiple Subjects Credential Program. Education E391DF is prerequisite to E391DW. Education E391DF-DW is a two-quarter sequence course; both quarters must be taken to receive credit.

Application of research and theory to classroom practice in the teaching of reading and language arts through problem solving situations, inductive reasoning and discovery, and adapting instruction to individual reading needs. This is an in-progress graded course over two quarters for a total of 5 units.

E391E. Teaching Strategies: Bilingual/ Cross-Cultural Education

(3) STAFF

Prerequisites: consent of instructor and admission to the Bilingual/Cross-Cultural Emphasis Program.

An examination of theoretical frameworks for bilingual education. Students will also learn teaching methods for the Spanish-English classroom with particular emphasis on language arts.

E391F. Teaching Curriculum: Bilingual/ Cross-Cultural Education

(3) STAFF

Prerequisites: consent of instructor and admission to Bilingual/Cross-Cultural Emphasis Program.

A detailed examination and application of teaching methods for the Spanish-English bilingual/cross-cultural classroom in the areas of science, mathematics, social science, reading, writing, and culture. Examination of materials and development of new and appropriate materials.

E391G. Applications of Theory: Bilingual/ Cross-Cultural Education

(3) STAFF

Prerequisites: consent of instructor and admission to Bilingual/Cross Cultural Emphasis Program.

Applications of theory and policy will be analyzed for purposes of teaching applications. ESL and bilingual teaching methods will be reviewed and connected with classroom application through student teaching experiences.

E391HF-HW-HS. Multicultural, Social, and Linguistic Factors in Teaching English as a Second Language

(1-1-1) STAFF

Prerequisite: enrollment in Multiple Subject Teaching Credential Program. This is a three-quarter, in-progress sequence course. All three quarters must be completed to receive credit.

Practical theories and teaching strategies for teaching students from diverse language groups will be examined and practiced through workshop styles. Methods such as TPR, Natural Approach, and Sheltered instruction will be presented.

E392F-W-S. Supervised Teaching: Elementary Schools

(7-7-14) STAFF

Prerequisite: admission to the Multiple Subject Credential Program.

Supervised teaching.

R392A-B. Multicultural Reading Field Experiences

(2-2) STAFF

Prerequisites: admission to Single Subject Credential Program; consent of instructor.

Supervised field experience in multicultural settings for secondary teacher candidates.

R392C. Multicultural Reading Field Experiences

(1) STAFF

Prerequisites: admission to Single Subject Credential Program; consent of instructor.

Supervised field experience in multicultural settings for secondary teacher candidates.

S392. Student Teaching: Secondary Education Art

(3-12) STAFF

Prerequisites: admission to the Single Subject Credential Program and consent of instructor.

Supervised teaching at the secondary level.

SC392. Student Teaching: English

(3-12) STAFF

Prerequisite: admission to Single Subject Credential Program. Admission to student teaching.

Field work, teaching one or more classes in English or related fields, grades 7-14, in a local school under the supervision of a master-teacher and university field supervisor.

SC393. Problems Seminar in Teaching of English

(1) STAFF

Prerequisite: Admission to Single Subject Credential Program in English. Taken concurrently with supervised teaching in English.

This seminar will cover problems related to student teaching.

SL390. Curriculum and Instructional Procedures and Materials Used in the Teaching of Foreign Language

(3) STAFF

Prerequisites: admission to Single Subject Credential Program. Background in foreign language.

Methodology of foreign language teaching.

SL392. Student Teaching: Foreign Languages

(3-12) STAFF

Prerequisites: admission to Single Subject Credential Program in foreign language and consent of instructor.

Supervised teaching at the secondary level in foreign languages.

SM392. Student Teaching: Mathematics

(3-12) STAFF

Prerequisite: admission to the Single Subject Credential Program in mathematics.

Supervised teaching at the secondary level in mathematics.

SS392. Student Teaching: Social Studies

(3-12) STAFF

Prerequisite: admission to the Single Subject Credential Program in social studies.

Supervised teaching at the secondary level in social studies.

ST392. Student Teaching: Science Education

(3-12) STAFF

Prerequisite: admission to the Single Subject Credential Program in science.

Supervised teaching at the secondary level in science.

E393. Seminar in Student Teaching

(1) STAFF

Prerequisite: admission to Multiple Subject Credential Program. Concurrent enrollment in Education E392.

This seminar will cover problems related to student teaching.

SC393. Problems Seminar in Teaching of English

(1) STAFF

Prerequisite: admission to Single Subject Credential Program. Taken concurrently with supervised teaching.

This seminar will cover problems related to student teaching.

SL393. Problem Seminar: Teaching Foreign Languages

(1) STAFF

Prerequisite: admission to Single Subject Credential Program in foreign language. Taken concurrently with supervised teaching in foreign language.

This seminar will cover problems related to student teaching in foreign languages.

SM393. Seminar in Teaching Mathematics

(1) STAFF

Prerequisite: admission to Single Subject Credential Program. Taken concurrently with supervised teaching in mathematics.

This seminar will cover problems related to student teaching.

SS393. Seminar in Teaching Social Studies

(1) STAFF

Prerequisite: admission to Single Subject Credential Program in social studies. Taken concurrently with supervised teaching in social studies.

This seminar will cover problems related to student teaching.

ST393. Seminar in Teaching Science

(1) STAFF

Prerequisite: admission to Single Subject Credential Program in science. Taken concurrently with supervised teaching in science.

This seminar will cover problems related to student teaching.

E394. Collegial Observation and Communication Skills Development

(1) STAFF

Prerequisite: admission to secondary or elementary credential program.

Designed to teach observation and communication skills to student teachers in order that they might engage in peer or collegial observation of one another.

ADVANCED STUDIES

Advanced study and research courses (599 series): The 594-599 series of courses are for advanced study and/or research. Students in Special Education may enroll in this series with the letter designation "SE." All students enrolling in 500-level courses must use instructor codes when registering (according to registration instructions distributed each quarter).

594. Special Topics

(1-4) STAFF

Prerequisite: consent of instructor.

Special seminar on research subjects of current interest in doctoral and masters' degree subprograms.

595. Group Studies

(4) STAFF

Prerequisite: consent of instructor.

Critical review of research in doctoral and masters' degree subprogram special fields.

596. Directed Reading and Research

(2-12) STAFF

Prerequisite: consent of instructor.

Individual tutorial in doctoral and masters' degree subprogram special fields.

597. Individual Study for Comprehensive Examinations

(2-12) STAFF

Prerequisite: consent of instructor.

Preparation for master's or Ph.D. comprehensive examinations.

598. Master's Thesis Research and Preparation

(2-12) STAFF

Prerequisite: consent of instructor.

Supervised research and writing of the thesis in doctoral and masters' degree subprograms.

599. Ph.D. Dissertation Preparation

(2-12) STAFF

Prerequisite: consent of instructor.

Supervised research and writing of the dissertation in doctoral degree programs.

Appendix

University Officers

Effective July 1993

The Regents of the University of California

Regents Ex Officio

Pete Wilson
Governor of California

Leo T. McCarthy
Lieutenant Governor of California

Willie L. Brown, Jr.
Speaker of the Assembly

William Dawson
Acting State Superintendent of Public Instruction

Carl J. Stoney, Jr.
President of the Alumni Associations of the University of California

Paul J. Hall
Vice President of the Alumni Associations of the University of California

Jack W. Peltason
President of the University

Appointed Regents

William T. Bagley
Roy T. Brophy
Clair W. Burgener
Glenn Campbell
Frank W. Clark, Jr.
Ward Connerly
John G. Davies
Tirso del Junco, M.D.
Alice J. Gonzales
S. Sue Johnson
Meredith J. Khachigian
Leo S. Kolligian
Howard H. Leach
Lester H. Lee
Darby N. Morrisroe
S. Stephen Nakashima
Dean A. Watkins
Harold M. Williams
Jacques S. Yeager

Regents-Designate

Robert E. Murphy
Roy L. Shults

Faculty Representatives to the Board of Regents

Arnold Binder
W. Elliott Brownlee (until 8/1/93)

Appointed Officers of The Regents

James E. Holst, *General Counsel and Vice President - Legal Affairs*
Bonnie M. Smotony, *Secretary*
Herbert M. Gordon, *Treasurer*

Office of the President

Jack W. Peltason
President of the University

Walter E. Massey
Provost and Senior Vice President—Academic Affairs

Ronald W. Brady
Senior Vice President—Administration and Chief Financial Officer

William B. Baker
Vice President—University and External Relations

Kenneth R. Farrell
Vice President—Agriculture and Natural Resources

Cornelius L. Hopper, M.D.
Vice President—Health Affairs

University Chancellors

Chang-Lin Tien
Chancellor at Berkeley

Theodore L. Hullar
Chancellor at Davis

Lauren Wilkening
Chancellor at Irvine

Charles E. Young
Chancellor at Los Angeles

Raymond L. Orbach
Chancellor at Riverside

Richard C. Atkinson
Chancellor at San Diego

Julius R. Krevans, M.D.
Chancellor at San Francisco

Barbara S. Uehling
Chancellor at Santa Barbara

Karl S. Pister
Chancellor at Santa Cruz

Administrative Officers *Santa Barbara Campus*

Barbara S. Uehling
Chancellor

Vernon I. Cheadle
Chancellor Emeritus

Donald W. Crawford
Executive Vice Chancellor

Robert W. Kuntz
Assistant Chancellor—Budget and Planning

Julius M. Zelmanowitz
Associate Vice Chancellor—Academic Personnel

Ronald W. Tobin
Associate Vice Chancellor—Academic Programs

James F. Case
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Assistant Vice Chancellor—Personnel Services

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Vice Chancellor—Institutional Advancement

Michael A. Vorhaus
Assistant Vice Chancellor—Development

Ernest A. Lopez
Assistant Vice Chancellor—Public Affairs

Michael D. Young
Vice Chancellor—Student Affairs

Vacant
Assistant Vice Chancellor

Vacant
Assistant Vice Chancellor

Everett R. Kirkelie
Associate Vice Chancellor—Housing and Auxiliary Services and Special Assistant to the Chancellor

College of Letters and Science

Llad Phillips
Acting Provost

Porter Abbott
Acting Dean, Humanities and Fine Arts

Don H. Zimmerman
Acting Dean, Social Sciences

Daniel W. Hone
Acting Dean, Mathematical, Life, and Physical Sciences

Dolores M. Hsu
Associate Dean, Program Support

Lester P. Monts
Dean of Undergraduate Affairs

David M. Kohl
Associate Dean, Student Academic Affairs

College of Creative Studies

William J. Ashby
Acting Provost

College of Engineering

Venkatesh Narayanamurti
Dean

Robert G. Rinker
Associate Dean for Academic Affairs

W. Henry Weinberg
Associate Dean for Graduate Programs and College Development

Graduate School of Education

Richard J. Shavelson
Dean

Graduate Division
Charles Li
Dean

Sarah Fenstermaker
Associate Dean

Dean of Students
Gladys De Necochea

Student Development Services
Carol A. Geer, *Director*

Admissions and Relations with Schools
William Villa, *Director*

University Office of Education Abroad Program
John A. Marcum, *Director*

Summer Sessions
Eugene C. Johnsen, *Director*

University Extension
John C. Maxwell, *Dean*

Off-Campus Studies
John C. Maxwell, *Dean*

University Library
Joseph A. Boissé, *University Librarian*

Office of the Registrar
Charles W. McKinney, *Dean and Registrar*

National Research Centers

Center for Quantized Electronic Structures
James L. Merz, *Director*

David Simonett Center for Spatial Analysis (formally known as NCGIA)
Michael Goodchild, *Co-Director*
Luc Anselin, *Co-Director*

Materials Research Laboratory
Anthony K. Cheetham, *Director*

Optoelectronics Technology Center
Larry A. Coldren, *Director*

Organized Research Units

Algebra Institute
James F. Case, *Acting Director*

Center for Chicano Studies
Juan-Vicente Palerm, *Director*

Community and Organization Research Institute
Director to be named

Computer Systems Laboratory/ CRSEO
Raymond C. Smith, *Director*

Institute for Crustal Studies
Bruce Luyendyk, *Director*

Institute for Polymers and Organic Solids
Alan J. Heeger, *Director*

Marine Science Institute
James Kennett, *Director*

Neuroscience Research Institute
Steven K. Fisher, *Director*

Quantum Institute
S. James Allen, *Director*

Multicampus Research Units

Intercampus Institute for Research at Particle Accelerators (branch)
David O. Caldwell, *Associate Director for UCSB*

Linguistic Minority Research Institute
Reynaldo F. Macías, *Director*

Affiliated Units

Center for Risk Studies and Safety
Theofanis G. Theofanous, *Director*

Center for Black Studies
Charles H. Long, *Director*

Center for Computational Sciences and Engineering
John L. Bruno, *Director*

Center for Control Engineering and Computation
Petar V. Kokotovic, *Co-Director*
Alan Laub, *Co-Director*

Center for High-Speed Image Processing
Glen Wade, *Director*

Center for Information Processing Research
Allen Gersho, *Director*

Center for Macromolecular Science and Engineering
Glenn H. Fredrickson, *Director*

Compound Semiconductor Research Center
Pierre M. Petroff, *Director*

High Performance Composites Center
Anthony G. Evans, *Co-Director*
Frederick Leckie, *Co-Director*

Institute for Theoretical Physics
James S. Langer, *Director*

Interdisciplinary Humanities Center
Simon Williams, *Director*

Center for Portuguese Studies
Joao Camilo Dos Santos, *Director*

Ocean Engineering Laboratory
Marshall P. Tulin, *Director*

Natural Reserve System

Natural Reserve System
Henry W. Offen, *Director*

Carpinteria Salt Marsh Reserve
Wayne R. Ferren Jr., *Manager*

Coal Oil Point Reserve
David Coon, *Manager*

Santa Cruz Island Reserve
Sally J. Holbrook, *Faculty Manager*
Lyndal L. Laughrin, *Resident Manager*

Valentine Eastern Sierra Reserve
(includes Valentine Camp and Sierra Nevada Aquatic Research Laboratory)

John M. Melack, *Faculty Manager*
Daniel R. Dawson, *Resident Manager*

University Policies and Regulations

Student Right-to-Know and Crime Awareness and Campus Security Act of 1990

The following information is provided in compliance with the Student Right-to-Know and Crime Awareness and Campus Security Act of 1990.

Average Persistence and Graduation Rates

UCSB takes great pride in having one of the highest graduation rates after four years (36%) among public universities. After six years, approximately two thirds of UCSB's entering freshman class graduate.

	% Persistence at:		**% Graduation at:**			
Years:	**One**	**Two**	**Three**	**Four**	**Five**	**Six**
Freshmen	88%	77%	—	36%	62%	67%
Junior Transfers*	86%	47%	68%	76%	78%	78%

**Some non-returning transfer students have graduated.*

Persistence is the percentage of originally enrolled students still enrolled at UCSB after one and two years. Graduation rates indicate the percentage of students graduating after, four, five, and six years at UCSB. Rates reflect Fall to Fall academic year.

Campus Crime Rate

UC Santa Barbara is committed to providing for a safe and secure environment and supports a reporting philosophy that encourages victims or witnesses to report all incidents to the UCSB Police immediately.

Crime Statistics

UCSB Police Department

Number of reported occurrences at UCSB for mandated reporting offenses:

Crime	**1990**	**1991**	**1992**
Homicide	0	0	0
Rape:			
by force	1	5	0
attempt	1	0	1
Robbery	1	1	4
Aggravated assault	2	6	2
Burglary	58	77	72
Larceny—Theft			
Bicycle	296	422	415
Other	274	329	306
Motor Vehicle Theft	11	7	8
Arson	0	4	5
Other Sex Offenses			14

Number of arrests at UCSB for mandated reporting offenses

Offense	**1990**	**1991**	**1992**
Alcohol Offenses	171	134	195
Drug/Narcotics	22	10	8
Weapons	0	3	5

Equal Opportunity and Nondiscrimination

The University of California, in compliance with Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination in Employment Act of 1967, and the Age Discrimination Act of 1975, does not discriminate on the basis of race, color, national origin, religion, sex, handicap, or age in any of its policies, procedures, or practices; nor does the university, in compliance with Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, and Section 12940 of the State of California Government Code, discriminate against any employees or applicants for employment because they are disabled veterans or veterans of the Vietnam era, or because of their medical condition (as defined in Section 12926 of the California Government Code), their ancestry, or their marital status; nor does the university discriminate on the basis of citizenship, within the limits imposed by law or university policy; nor does the university discriminate on the basis of sexual orientation. This nondiscrimination policy covers admission, access, and treatment in university programs and activities, and application for and treatment in university employment.

In conformance with university policy and pursuant to Executive Orders 11246 and 11375, Section 503 of the Rehabilitation Act of 1973, and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, the University of California is an affirmative action/equal opportunity employer.

Inquiries regarding the university's equal opportunity policies may be directed to:

Raymond Huerta
Affirmative Action Coordinator
Telephone: (805) 893-2089

California Residency and the Nonresident Tuition Fee

Tuition Fee for Nonresident Students

If you have not been living in California with intent to make it your permanent home for more than one year immediately before the residence determination date for each term in which you propose to attend the University, you must pay a nonresident tuition fee in addition to all other fees. Additionally, if your parents are not residents of the state of California and you did not attend the University of California prior to Fall 1993, you must be considered financially independent to qualify for California residence for tuition purposes. The residence determination date is the day instruction begins at the last of the University of California campuses to open for the quarter, and for schools on the semester system, the day instruction begins for the semester.

Law Governing Residence

The rules regarding legal residence for tuition purposes at the University of California are governed by the California Education Code and implemented by the Standing Orders of The Regents of the University of California. Under these rules, adult citizens and certain classes of aliens can establish residence for tuition purposes. There are also particular rules that apply to the residence classification of minors (see below).

Who Is a Resident?

If you are an adult student (at least 18 years of age) you may establish residence for tuition purposes in California if: (1) you are a U.S. citizen; (2) you are a permanent resident or other immigrant and hold a valid visa; or (3) you are a nonimmigrant who is not precluded from establishing a domicile in the U.S. Nonimmigrants who are not precluded from establishing a domicile in the U.S. include those who hold valid visas of the following types: A, E, H-1, I, K, L, or O-1. To establish residence you must be physically present in California for more than one year and you must have come here with the intent to make California your home as opposed to coming to this state to go to school. Physical presence within the state solely for educational purposes does not constitute the establishment of California residence, regardless of the length of your stay. You must demonstrate your intention to make California your home by severing your residential ties with your former state of residence and establishing those ties with California. If these steps are delayed, the one year durational period will be extended until you have demonstrated both presence and intent for one full year. Your residence cannot be derived from your spouse or your parents.

Effective Fall 1993, if your parents are not residents of California or you were not enrolled as a UC student prior to Fall 1993, you will be required to be financially independent in order to be a resident for tuition purposes. You will be considered financially independent if one or more of the following applies: You are at least 24 years old; you have legal dependents other than a spouse; you are a ward of the court or both your parents are deceased; you are a veteran of the U.S. Armed Forces; you are married or a graduate or professional student and you were not claimed by your parents or any other individual for the tax year immediately preceding the term for which you are requesting resident classification; you are a graduate or professional student who is employed at UC 49% or more time in the term for which resident classification is requested; or you are a single undergraduate student and you were not claimed by your parents or any other individual for the two tax years immediately preceding the term for which you are requesting resident classification, and you can demonstrate self-sufficiency for those years.

Establishing Intent to Become a California Resident

Indications of your intent to make California your permanent residence can include the following: registering to vote and voting in California elections; designating California as your permanent address on all school and employment records, including military records if you are in the military service; obtaining a California driver's license or, if you do not drive, a California Identification Card; obtaining California vehicle registration; paying California income taxes as a resident, including taxes on income earned outside of California from the date you establish residence; establishing a California residence in which you keep your personal belongings; and licensing for professional practice in California. The absence of these indicia in other states during any period for which you claim residence can also serve as an indication of your intent. Documentary evidence is required and all relevant indications will be considered in determining your classification. Your intent will be questioned if you return to your prior state of residence when the University is not in session.

General Rules Applying to Minors

If you are an unmarried minor (under the age of 18), the residence of the parent with whom you live is considered your residence. If you have a parent living, you cannot change your residence by your own act, by the appointment of a legal guardian, or by the relinquishment of a parent's right of control. Ifversity of California Fall 1993 or later, financial independence will be a definitive factor in the residency status determination.

Time Limitation on Providing Documentation

If additional documentation is required for either an initial residence classification or reclasidence when both your parents are deceased and a legal guardian has not been appointed. If you derive California residence from a parent, that parent must satisfy the one-year durational residence requirement.

Specific Rules Applying to Minors

1. Divorced/Separated Parents

You may be able to derive California resident status from a California resident parent if you move to California to live with that parent on or before your 18th birthday. If you begin residing with your California parent after your 18th birthday, you will be treated like any other adult student coming to California to establish residence.

Salary and Employment Information, University of California

Field of Study	Bachelor's	Master's	Doctorate
Business	$25,730	$36,886	$55,582
Engineering	$34,304	$39,949	$54,620
Humanities	$22,420	$24,553	$28,762
Life Science	$21,851	$25,126	$42,000
Physical Science	$26,820	$34,175	$45,110
Social Science	$21,465	$26,344	$42,817

SOURCE: *A national survey of a representative group of colleges conducted by the College Placement Council, representing the average range offers for September 1991 throughout the country. It should be noted that a wide variation in starting salaries exists within each discipline, based on job location, type of employer, personal qualifications of the individual, and employment conditions at the time of job entry.*

2. Parent of Minor Moves From California

You may be entitled to resident status if you are a minor U.S. citizen or eligible alien whose parent(s) was a resident of California who left the state within one year of the residence determination date if: 1) you remained in California after your parent(s) departed; 2) you enroll in a California public postsecondary institution within one year of your parent(s) departure; and 3) once enrolled, you maintain continuous attendance in that institution.

3. Self Support

You may be entitled to resident status if you are a U.S. citizen or eligible alien and either a minor or age 18 and can prove the following: 1) you lived in California for the entire year immediately preceding the residence determination date; 2) you have been self-supporting for that year; and 3) you intend to make California your permanent home.

4. Two-Year Care and Control

You may be entitled for resident status if you are a U.S. citizen or eligible alien and you have lived continuously with an adult who is not your parent for at least two years prior to the residence determination date. The adult with whom you are living must have been responsible for your care and control for the entire two-year period and must have been residing in California during the one year immediately preceding the residence determination date.

Exemptions from Nonresident Tuition

1. Member of the Military

If you are a member of the U.S. military stationed in California on active duty, unless you are assigned for educational purposes to a state-supported institution of higher education, you may be exempt from the nonresident tuition fee until you have lived in California long enough to become a resident. You must provide the residence deputy on campus with a statement from your commanding officer or personnel officer stating that your assignment to active duty in California is not for educational purposes. The letter must include the dates of your assignment to the state.

2. Spouse or Other Dependents of Military Personnel

You are exempt from payment of the nonresident tuition fee if you are a spouse or a natural or adopted child or stepchild who is a dependent of a member the U.S. military stationed in California on active duty. The exemption is available until you have lived in California long enough to become a resident. You must petition for a waiver of the nonresident tuition fee each quarter you are eligible. If you are enrolled in an educational institution and the member of the military is transferred on military orders to a place outside of California where he or she continues to serve in the armed forces, or the member of the military retires from active duty immediately after having served in California on active duty, you may retain this exemption under the conditions listed above.

3. Child or Spouse of Faculty Member

To the extent funds are available, if you are a dependent child under the age of 21 or the spouse of a member of the University faculty who is a member of the Academic Senate, you may be eligible for a waiver of the nonresident tuition fee. Confirmation of the faculty member's membership on the Academic Senate must be secured each quarter before the waiver is granted.

4. Child or Spouse of University Employee

You may be entitled to resident classification if you are an unmarried dependent child or the spouse of a full-time University employee whose assignment is outside California (e.g. Los Alamos Scientific Laboratory). Your parent's or spouse's employment status with the University must be ascertained each term.

5. Child of Deceased Public Law Enforcement or Fire Suppression Employee

You may be entitled to a waiver of the nonresident tuition fee if you are the child of a deceased public law enforcement or fire suppression employee who was a California resident at the time of his death and who was killed in the course of fire suppression or law enforcement duties.

6. Dependent of a California Resident

If you have not been an adult resident of California for more than one year and you are the dependent child of a California resident who has been a resident for more than one year immediately prior to the residence determination date, you may be entitled to a waiver of the nonresident tuition until you have resided in California for the minimum time necessary to become a resident so long as you maintain continuous attendance at an institution.

7. Native American Graduates of a BIA School
You are eligible for an exemption from the nonresident fee if you are a graduate of a California school operated by the Federal Bureau of Indian Affairs and you enroll at one of the University of California campuses. Currently, Sherman Indian High School in Riverside is the only California High School operated by the BIA.

Temporary Absences

If you are a non-resident student who is in the process of establishing residence for tuition purposes and you return to your former home during non-instructional periods, your presence in the state will be presumed to be solely for educational purposes and only convincing evidence to the contrary will rebut this presumption. (A student who is in the state solely for educational purposes will NOT be classified as a resident for tuition purposes regardless of the length of his or her stay).

If you are a student who has been classified as a resident for tuition purposes and you leave the state temporarily, your absence could result in the loss of your California residence. The burden will be on you (or your parents if you are a minor) to verify that you did nothing inconsistent with your claim of a continuing California residence during your absence. Steps that you (or your parents) should take to retain a California residence include:

1. Continue to use a California permanent address on all records—educational, em-ployment, military, etc.
2. Continue to satisfy California tax obligations (*Note if you are claiming California residence, you are liable for payment of income taxes on your total income from the date you establish your residence, in the state, including income earned in another state or country).*
3. Retain your California voter's registration and vote by absentee ballot.
4. Maintain a California driver's license and vehicle registration. If it is necessary to change your license or vehicle registration, you must change them back to California within the time prescribed by law.

Change of Classification

You must petition in person at the Registrar's Office for a change of classification from nonresident to resident status. All changes of status must be initiated prior to the first day of class for the term for which you intend to be reclassified. In addition to the indications listed above, if you attended the University of California prior to Fall 1993, financial independence will be included among the factors considered if you are seeking a change in residency classification. If you first attended the University of California Fall 1993 or later, financial independence will be a definitive factor in the residency status determination.

Time Limitation on Providing Documentation

If additional documentation is required for either an initial residence classification or reclassification but is not readily accessible, you will be allowed until the end of the applicable term to provide it.

Incorrect Classification

If you were incorrectly classified as a resident, you are subject to reclassification and to payment of all nonresident tuition fees not paid. If you concealed information or furnished false information and were classified incorrectly as a result, you are also subject to University discipline. Resident students who become nonresidents must immediately notify the campus residence deputy.

Inquiries and Appeals

Inquiries regarding residence requirements, determination, and/or recognized exemptions should be directed to the Residence Deputy, Office of the Registrar, 1117 Cheadle Hall, Univeristy of California, Santa Barbara, CA 93106 (805) 893-3033, or the Legal Analyst—Residence Matters, 300 Lakeside Drive, Seventh Floor, Oakland, CA 94612-3565. No other University personnel are authorized to supply information relative to residence requirements for tuition purposes.

You are cautioned that this summary is NOT a complete explanation of the law regarding residence. Please note that changes may be made in the residence requirements between the publication of this statement and the relevant residence determination date. Any student, following a final decision on residence classification by the residence deputy, may appeal in writing to the legal analyst within 45 days of notification of the residence deputy's final decision.

Questions regarding classification criteria may be directed to the UCSB Residence Deputy, 1117 Cheadle Hall, Santa Barbara, CA 93106. Telephone: (805)893-3033.

Confidentiality and Accessibility of Student Records

The University of California campuses maintain various types of records pertaining to students. Student records—that is, those pertaining to students in their capacity as students—include but are not limited to academic evaluations, transcripts, test scores and other academic records, general counseling and advising records, disciplinary records, and financial aid records.

The disclosure of information from student records is governed in large measure by the Federal Family Educational Rights Privacy Act of 1974, by the California Public Records Act, by the Information Practices Act of 1977, by the State of California Education Code, and by university policy and procedures implementing these laws that protect the student's right of privacy, provide safeguards for the confidentiality of student records, and permit students access to their own records.

Pursuant to the Federal Family Educational Rights and Privacy Act of 1974, the University of California Policies Applying to the Disclosure of Information from Student Records, and campus implementing procedures found in Policy P-1710 and Procedure 1711 in the UCSB Policies and Procedures Manual, students at the Santa Barbara campus of the university have the right:

1. To inspect and review records pertaining to themselves in their capacity as students;
2. To have withheld from disclosure, absent their prior consent for release, personally identifiable information from their student records, with exceptions as noted in Section 10.70 of the university's policies;
3. To inspect records maintained by the campus of disclosures of personally identifiable information from their student records;
4. To seek correction of their student records through a request to amend the records or a request for a hearing; and
5. To file complaints with the Department of Education regarding alleged violations of the right accorded them by the Federal Act.

Copies of the university's policies and campus implementation procedures can be obtained from and questions regarding various privacy regulations can be addressed to Business Services, Cheadle Hall, room 2221. For the types and locations of student records maintained by the campus, and titles and addresses of the officials responsible for the records, please refer to Policy P-1710 in the UCSB Policies and Procedures Manual, available in campus offices.

The following information is designated as "public information" and normally will be released by the campus without the consent of the student: name, current local and permanent address and telephone number, date/place of birth, major, dates of attendance, degree/honors awarded, most recent school attended, athletic information, including height and weight, and participation in officially recognized organizations. Students have the right to restrict the disclosure of this information. A form to restrict disclosure of any or all of this information may be completed at the time of registration in the Office of the Registrar. A student requesting such restrictions should be aware, however, of the implications of such a request. For example, if a request is made to withhold from disclosure a student's name and degrees and honors received, the campus cannot make public any honors received by the student, such as election to Phi Beta Kappa, and cannot include the student's name and degree earned in any campus publication. Similarly, if a request is made to withhold from disclosure a student's name and dates of attendance, a student's status as a student cannot be verified for potential employers without the written consent of the student. Further, if a student's last instruction to the campus was to withhold from disclosure the degree granted to that student, that information cannot be confirmed for a third party in connection with the appointment of the graduate to a new position or an honor that individual received.

Students are given an opportunity to examine and update their personal information each fall quarter or at any time upon request at the Office of the Registrar.

Campus Regulations Applying to Campus Activities, Organizations, and Students

"Campus Regulations Applying to Campus Activities, Organizations, and Students" is available, free of charge, in the Office of the Dean of Students, Building 427. This document includes regulations relating to student activities as well as to academic misconduct. It also specifies conditions for applying sanctions for unsatisfactory conduct.

Contested Grades

Any student who believes that a grade was assigned based upon criteria other than course performance may challenge that grade using Academic Senate Regulations A25 and A10. Graduate students should consult Graduate Division on grades to be contested, regardless of level or college in which the course was taken.

Regulation A25

(A) In the Santa Barbara division the term grade assigned to an individual student may be challenged by that student on grounds that the grade was based on an evaluation of the student's work by criteria not directly reflective of course performance, such as discrimination on political grounds, or for reasons of race, religion, sex, or ethnic origin.

(B) A student wishing to contest a grade on such grounds must present a preliminary written appeal to the executive committee of the school or college offering the course prior to the end of the term following the term in which the grade was assigned. Upon receipt of this preliminary appeal, the chair of the executive committee or his/her designated agent (such as the ombudsman) shall promptly seek a resolution of the issue by consulting the parties involved and the chair of the instructor's department. If these efforts are unavailing within 30 days, the student may present a final written appeal to the executive committee. Upon receipt of this final appeal, the executive committee in consultation with both parties shall determine whether the evidence is sufficient to establish a prima facie case. If the dean or any other member of the executive committee was the instructor involved, that person shall not participate in these deliberations nor in those specified in (E).

(C) If the executive committee determines that a prima facie case exists, it shall request an investigation by the dean or the equivalent officer of the school or college concerned. However, if the dean was the instructor of the course in question, the vice chancellor shall be requested to undertake the responsibilities of the dean as stated below.

(D) In the investigation the dean shall provide a fair proceeding for both instructor and student, including information as to the character and object of the proceeding, knowledge of the allegations and evidence produced by the student to establish the prima facie case, and an opportunity for both parties to answer. The dean shall prepare a report of the investigation, making findings of fact and reaching conclusions as to whether the grade was based on unacceptable criteria as defined in (A), and if so, the nature of such criteria, and the dean shall recommend the change to be made in accordance with the provisions stated below. Copies of the dean's report shall be sent to the instructor and the student, both of whom shall have the opportunity to submit written comments to the executive committee before the committee's final decision.

Student Grievance Procedure

WHO	**WHAT**	**WHERE**	**WHEN***
Student	Files formal complaint	Office of the Vice Chancellor-Student Affairs	Within 30 days of grievable action
Vice Chancellor-Student Affairs	Forwards complaint	1) To designated investigator(s) 2) To head of department where alleged violation occurred 3) Affirmative Action Coordinator 4) Title IX Compliance Officer, if sex related	Within 5 days of receipt of complaint
Department Head	Files written answer to charges	With designated investiagator(s)	Within 10 days
Investigator(s)	Examine circumstances of charge and reports findings	1)To Vice Chancellor-Student Affairs 2) Department 3) Student 4) Copies to Affirmative Action Coordinator and/or Title IX Officer	Within 10 days of department head reply or 20 days after receipt of complaint
Student	Presents written request for formal hearing	To Vice Chancellor-Student Affairs	Within 10 days of receipt of investigator'(s) report
Vice Chancellor-Student Affairs	Arranges for impartial hearing; student chooses hearing entity	Campus location	Within 30 days
Vice Chancellor-Student Affairs	Notifies grievant and department head of hearing time and date	Personally or by registered mail	1S days before hearing date
Each party	Exchanges evidence	To be agreed upon	Within 7 days before hearing
Hearing entity	Reports findings; makes recommendations	To Vice Chancellor-Student Affairs	Within 30 days after hearing
Vice Chancellor-Student Affairs	Makes decision based on report and recommendations	To both parties and their representatives; To Affirmative Action Coordinator and/or Title IX Officer	Within 15 days from receipt of report
Student	Files appeal	To Chancellor	Within 30 days from date of report
Campus	Keeps all hearing records	As designated by the chancellor and subject to privacy and disclosure legislation	For 3 years

**All time referred to shall be working days.*

(E) If the executive committee decides that the grade assigned reflects unacceptable criteria as specified in (A) it shall authorize one of the actions stated below.

The committee may act only as follows:

1. authorize retroactive withdrawal from the course;
2. authorize the change of a contested grade;
3. for courses offered in the College of Creative Studies, the executive committee shall determine the number of units to be assigned.

In each case before making its decision the committee shall again consult the parties concerned. The committee shall report its decision to the registrar for recording.

Regulation A10

(A) (SR 542) No student may enter upon any organized instructional activity until he or she has registered and his or her enrollment has been approved by the appropriate study-list authority. No student may begin or continue a course if the officer of instruction in charge considers him or her unqualified by lack of preparation. Late registration may not be used to justify inadequate performance in a course.

(B) In the Santa Barbara division an instructor's refusal to permit a student to begin or continue a course may be challenged by the student on grounds that such refusal arises from discrimination on political grounds, or for reasons of race, religion, sex, ethnic origin, or for other arbitrary or personal reasons. The procedure for the initiation of such a challenge is set forth in regulation A25. However, the only final recommendations and decisions to be made by the officers and the committees therein specified shall be to deny or authorize the student's entry into or continuation in the course concerned.

Student Grievance Procedure

UCSB is in compliance with all legislation which seeks to eliminate discrimination toward students. Titles VI and VII of the Civil Rights Act of 1964 prohibit discrimination on the basis of race, color, national origin, and religion. Title IX of the Educational Amendments of

1972 prohibits discrimination on the basis of sex. Section 504 of the Rehabilitation Act of 1973 prohibits discrimination on the basis of handicap. Policy action by the Regents of the University of California prohibits discrimination on the basis of age and sexual orientation.

Members of the UCSB campus staff are available to answer students' questions about nondiscrimination policies and procedures. Information and copies of the grievance procedure are available from these campus offices:

Office of Vice Chancellor—Student Affairs
Michael D. Young, Vice Chancellor
Cheadle Hall 5203-B, (805) 893-8784

Campus Title IX Sexual Harassment Complaint Resolution Officer
Paula Rudolph, Assistant Dean
Cheadle Hall 3117, (805) 893-2546

Office of the Dean of Students
Gladys De Necochea
Building 427, (805) 893-4569

Women's Center
Building 434, Room 141, (805) 893-3778

Disabled Students Program
Diane E. Glenn, Director
South Hall 1417, (805) 893-2668 V/TDD

Ombudsman's Office
Geoffrey Wallace, Ombudsman
Amelia Frank, Ombudsman
Trailer 989, (805) 893-3285

Affirmative Action Office
Raymond Huerta, Coordinator
Cheadle Hall 3203, (805) 893-2089

Associated Students
Student Assistance Office
UCen Third Floor, (805)893-2566

Graduate Division
Paula Rudolph, Assistant Dean
Cheadle Hall 3117, (805) 893-2546

Educational Opportunity Program
Yolanda Garcia, Director
Building 434, Room 125, (805) 893-3720

Any student who wishes to file a grievance arising from alleged discrimination (other than a contested grade) must do so at the Office of the Vice Chancellor—Student Affairs, (805) 893-3651, Cheadle Hall 5203. The chart above summarizes the steps in the university's formal grievance procedure for discrimination.

Sexual Harassment

One form of sex discrimination is sexual harassment. UCSB has a policy prohibiting sexual harassment and providing a grievance procedure specifically for this form of discrimination. Copies of the grievance procedure for sexual harassment may be obtained from each of the above mentioned offices. In addition, the Chancellor has appointed a Sexual Harassment Complaint Resolution Officer. The task of the Complaint Resolution Officer is to refer complaints to the appropriate campus grievance procedures and to handle those complaints not covered by established procedures.

Further information and/or assistance can be obtained from the Sexual Harassment Complaint Resolution Officer, Paula Rudolph, (805) 893-2546, Cheadle Hall 3117.

UCSB Policy and Procedure on Substance Abuse

Policy

The University recognizes drug and alcohol dependency as treatable conditions and offers educational and counseling assistance to employees and students to aid them in dealing with problems associated with substance abuse. Employees and students, however, are prohibited from the *unlawful* manufacture, distribution, dispensation, possession or use of a controlled substance and/or alcohol in the workplace, on University premises, at University activities, or on University business.

In addition, employees and students shall not use illegal or abuse legal substances in a manner which impairs job performance, scholarly activities, or student life.

Employees directly or indirectly involved in work on or for a Federal grant or contract are required *as a condition of employment* on the grant or contract, to notify the University within five (5) calendar days if they are convicted of any criminal drug statute violation for activity occurring at the workplace, at the location of any grant/contract activity, or while on University business.

Purpose

UCSB is committed to achieving and maintaining a worksite and campus community that is free from the problems of substance abuse and dependency. The purpose of this policy is to help provide a safe and secure environment for work and study and to inform employees and students of the health risks and legal sanctions associated with substance abuse.

Definitions

Confidential information: Confidential information is defined as medical records regarding the identity of the individual, the diagnosis or treatment of drug or alcohol abuse, or records indicating referral to a drug or alcohol abuse program. This information is subject to protection under Federal and State laws and may not be disclosed without specific authorization by the employee or student, or where authorized or required pursuant to Federal or State laws and regulations.

Conviction: The term "conviction" means a finding of guilt (including a plea of nolo contendere) or imposition of sentence, or both, by any judicial body charged with the responsibility to determine violation of Federal or State criminal drug statutes.

Employee: For the purposes of these pro-cedures, an employee is any person holding a University staff or academic appointment, including student, casual, temporary and contract employees on appointment.

Health Risks: Substance abuse may result in a wide spectrum of extremely serious health problems. Acute problems include heart attack, stroke and sudden death, which, in the case of some drugs such as cocaine, can occur after first-time usage. Long-lasting effects of drugs and alcohol may include disruption of normal heart rhythm, high blood pressure, leaks of blood vessels in the brain, bleeding and destruction of brain cells and permanent memory loss, infertility, impotency, immune system impairment, kidney failure, cirrhosis of the liver, and pulmonary damage. Drug use during pregnancy may result in fetal damage and birth defects causing hyperactivity, neurological abnormalities and developmental difficulties.

Legal Sanctions: There are numerous Federal, State and local statutes and ordinances relating to the manufacture, distribution, dispensation, possession or use of a controlled substance or alcohol. See Appendix A for a summary of some of these laws.

Student: According to *Campus Regulations Applying to Campus Activities, Organizations, and Students*, a student is a person who is currently enrolled at the University, or, during a recess period between quarters or the summer period, one who has completed the immediately preceding term and is eligible for re-enrollment. If students are employed by the University, they are covered by those provisions applying to employees and those provisions applying to students.

Substances: The term "substances" includes both illegal and legal substances:

1. *Illegal substances:* Illegal substances are controlled substances listed in the Federal Controlled Substances Act (21 U.S.C. 812) and further defined by regulations (21 CFR 1308), which are obtained illegally. A list of controlled substances is available in ASAP, Student Health Service—Alcohol/Drug Awareness Program, Personnel Services—Labor and Employee Relations.

2. *Legal substances are:*

(a) Alcoholic beverages,

(b) Controlled substances as listed in the Federal Controlled Substances Act, that are prescribed or administered by a licensed physician or health-care professional, or purchased and used in accordance with *Business and Finance Bulletin 50 - Acquisition and Use of Narcotics and Dangerous Drugs* for approved scientific research,

(c) Over-the-counter drugs/products.

Procedure

Coverage

All UCSB employees and students are covered by the provisions of this Policy and Procedure.

Notification

UCSB shall provide informational materials and/or programs on substance abuse on an ongoing basis, and shall annually distribute copies of this Policy to all employees and students. In addition, a copy shall be given to each new employee hired and each new student registered after the annual distribution.

Counseling and Rehabilitation

1. Employees and students are encouraged to voluntarily seek assistance for substance abuse/dependency problems. Supervisors may also refer individuals with substance abuse problems to campus counseling services.

2. UCSB offers assistance to employees and students in obtaining treatment and counseling for substance abuse problems through the following programs:

(a) ASAP counselors are available to employees to aid them in identifying community treatment programs.

(b) Student Health Service Alcohol/Drug Awareness Program counselors and Counseling and Career Services (CCS) counselors are available to students for short-term counseling and referral.

3. Information obtained during the course of participation in the above counseling programs will be treated as confidential and cannot be released without the written consent of the employee or student except as authorized or required by Federal or State Law.

Employee Job Performance and Substance Abuse

1. Employees are encouraged to seek assistance for drug- and alcohol-related problems and may request leaves of absence for this purpose, in addition to using approved vacation or sick leave, or attending employee support programs outside regular work hours.

2. When an employee's job performance appears impaired due to the use of an illegal substance or the abuse of a legal substance, including alcohol, the supervisor is obligated to take appropriate action to address the problem. Supervisors are encouraged to seek assistance from their department head, Personnel Services—Labor and Employee Relations, Academic Personnel or ASAP. Appropriate action is determined on a case-by case basis and may include, but is not limited to supervisory referral to ASAP, corrective action, or UCSB Police Department intervention.

3. Employees found to be in violation of this Policy or the University Policy on Substance Abuse may be subject to corrective action up to and including dismissal in accordance with the applicable Personnel policies and procedures, collective bargaining agreements, or Academic Senate policies and procedures. In addition to or in lieu of corrective action an employee may be required to participate in an approved counseling or treatment program. Attendance in counseling or treatment programs does not relieve an employee from the obligation to maintain acceptable work standards nor should it delay appropriate corrective action.

Employees Directly or Indirectly Involved in Work on or for a Federal Grant or Contract

If an employee is involved in work on a Federal grant or contract and is convicted of any criminal drug statute violation for activity occurring in the workplace or while on University business, the following provisions apply. The following also applies to any employee not directly funded by the contract or grant but who provides significant supportive or overhead work for the grant or contract.

1. The employee must notify his/her supervisor within five (5) calendar days of the conviction. Failure by an employee to report a conviction within five (5) calendar days may result in corrective action, up to and including dismissal.

2. A supervisor who is notified by the employee or who learns through other reliable means that an employee has been convicted, must immediately (same day, if feasible) report the conviction to the UCSB Office of Research Development and Administration (ORDA). (Drug Free Workplace Act of 1988, Public Law 100-690, Title V, Subtitle D).

3. ORDA will in turn report the conviction to the Federal agency administering the contract or grant within ten (10) calendar days of receiving notice of a conviction. ORDA will provide written notice of the conviction, including the I.D. number of each grant and the position title of the employee, to every grant officer on whose grant the employee was working.

4. The employing department is required by law to take one of the following actions *within thirty (30) days* of notification of the conviction:

(a) Taking appropriate personnel action, up to and including termination, or

(b) Requiring the employee to participate satisfactorily in a substance abuse assistance or rehabilitation program approved for such purposes by a Federal, State, or local health, law enforcement, or other appropriate agency.

Students and Substance Abuse

1. All students are encouraged to seek assistance for drug and alcohol related problems from counseling or treatment programs.

2. All students engaged in the *unlawful* manufacture, distribution, dispensation, possession or use of a controlled substance and/or alcohol on University properties or at official University functions are subject to the University discipline provisions of the "Campus Regulations Applying to Campus Activities, Organizations, and Students." Students found guilty of violating the University Policy on Substance Abuse or the UCSB Policy and Procedure are subject to disciplinary sanctions which may include loss of privileges and exclusion from activities, a letter of warning, suspension or dismissal. In addition to or in lieu of corrective action, a student may be required to participate in an approved counseling or treatment program.

Record Keeping

Departmental offices responsible for providing substance abuse-related educational programs or materials should maintain records of the programs/materials offered, the targeted groups, number of participants, and method of distribution, for biennial Federal audits of UCSB's efforts to create a drug-free environment.

References

Information about the documents used as references for this policy are available at Academic and Staff Assistance Program (ASAP), Student Health Service—Alcohol/Drug Awareness Program, and Personnel Services—Labor and Employee Relations.

Appendix A

Legal Sanctions Pertaining to the Use of Alcohol and Controlled Substances[1]

This is not intended to be a comprehensive list of all applicable laws. Moreover, laws may change over time. Individuals are expected to be aware of current federal, state, and local laws.

Federal Laws Governing Controlled Substances

- The manufacture, sale, or distribution of all scheduled (illicit) drugs constitutes a felony.[2]
- Scheduled Drugs include the various narcotics, barbiturates, amphetamines, cocaine, cannabis, hallucinogens, and synthetic drugs, e.g. PCP, MPTP, MDMA.
- Simple possession of controlled substances can be punished by civil fines of up to $10,000 per violation and a jail sentence.
- Distribution or possession with intent to distribute a controlled substance on University property requires a sentence enhancement of up to twice the prescribed sentence for the original offense, and at least twice the prescribed amount of parole time. This provision also calls for a mandatory sentence of not less than one year in prison for any offense except possession of less than 5 grams of marijuana.
- Persons convicted of possession or distribution of controlled substances can be barred from receiving benefits from any and all federal programs including student grants and loans, except some long term drug treatment programs.
- Aliens convicted of violation of any law or regulation of a state, the United States or a foreign country are subject to deportation and exclusion from entry to the United States.
- Persons who are health care providers are barred from receiving payment from federal insurance programs upon conviction of a criminal offense involving distribution or dispensing a controlled substance.
- Property including vehicles, vessels, aircraft, money, securities, or other things of value which are used in, intended for use in, or traceable to transactions that involve controlled substances in violation of federal law are subject to forfeiture to the United States.

California Laws Governing Controlled Substances

California law regarding controlled substances is in many respects similar to federal law. One set of sanctions, however, of which we should be aware is that most professionals subject to licensing under the Business and Professions Code are subject to discipline, up to and including loss of license, for conviction of offenses involving controlled substances.

California Laws Governing Marijuana

- The cultivation (i.e. growing or harvesting), the possession for sale, or the sale of marijuana constitutes a felony. A felony conviction can involve serving time in a state prison.
- Possession of one ounce or more of marijuana for personal use constitutes a misdemeanor, the conviction of which could include paying a fine and/or serving time in jail.
- Possession of less than one ounce of marijuana for personal use constitutes a misdemeanor, the conviction of which could carry a fine up to $100.00.

California Laws Governing Alcohol

- No person may sell, furnish, give, or cause to be sold, furnished or given away, any alcoholic beverage to a person under the age of 21, and no person under the age of 21 may purchase alcoholic beverages. (California Business and Professions Code 25658).
- It is unlawful for any person under the age of 21 to possess alcoholic beverages on any street or highway or in any place open to public view. (Calif. B&P Code 25662).
- It is a misdemeanor to sell, furnish, or give away an alcoholic beverage to any person under the age of 21 (Calif. B&P Code 25658) or to any obviously intoxicated person (Calif. B&P Code 25602).
- It is a misdemeanor to sell alcoholic beverages any place in the state without a proper license from the Department of Alcoholic Beverage Control. (Calif. B&P Code 23301).
- It is unlawful for any person to drink while driving, or to have an open container of an alcoholic beverage in a moving vehicle. With a blood alcohol level of .08 or higher, a driver is presumed under the influence of alcohol. Between .05% and .08% a person may be found guilty of driving under the influence.

Local Codes and Ordinances—Santa Barbara County

- It is unlawful for any person to consume any intoxicating liquor or possess any receptacle containing intoxicating liquor on any public street, public sidewalk, public highway, public parking lot or public alley.

Most such offenses are infractions subject to citation, but can be misdemeanors.

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[1] Credit must go to the Santa Cruz campus for preparation of a document that served as the base for this document and from which much was borrowed intact.

[2] Scheduled drugs are listed in Schedules I through V of the Controlled Substances Act (21 U.S.C. 812) and as further defined by regulations (21 CFR 1308.11 through 1308.15).

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